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THE YUCHI TOWN SITE (1RU63), RUSSELL COUNTY, ALABAMA: AN ASSESSMENT OF THE IMPACTS OF LOOTING

By

Michael L. Hargrave,
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Cultural Resources Research Center
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13. ABSTRACT (Maximum 200 words)
Yuchi Town is a large, late prehistoric and historic site located in a remote area of Fort Benning, GA. The site has escaped serious impacts from development or military training, but has, in recent years, become the focus of extensive illegal looting. To collect information needed for future management efforts, Fort Benning sponsored an archaeological assessment of the site. The primary focus of this investigation was to document the nature and extent of the impact of looting on the cultural deposits at Yuchi Town. Ancillary research topics focused on issues of subsistence, settlement, acculturation, and site formation processes. Most of the investigated looter holes extended through the plowzone into previously intact cultural deposits, and a number of them disturbed human remains and architectural features. Despite these impacts, Yuchi Town remains a very important source of archaeological and historical information, and a site of great social and religious significance to living Native American peoples. As such, the Yuchi Town site warrants continued preservation by Fort Benning.

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February, 1998

Foreword

This study was conducted for the Legacy Resource Management Program (DoD Project No. 940683), under Military Interdepartmental Purchase Request (MIPR) No. A914, dated 20 Sept. 1994, Work Unit # 001BLW; "Yuchi Town Looting Damage Assessment". The technical monitor for this project was Dr. Christopher Hamilton, Fort Benning, ATZB-PWN-P.

The work was performed by the Cultural Resources Research Center, Planning and Mission Impact Division (LL-P), Land Management Laboratory, U. S. Army Construction Engineering Research Laboratories. The USACERL Principal Investigator was Dr. Michael L. Hargrave. Dr. Harold E. Balbach is Chief, CECER-LL-P, and Dr. William D. Severinghaus is Operations Chief, CECER-LL. COL James A. Walter is Commander, and Dr. Michael J. O'Connor is Director of USACERL.

The Legacy Resource Management program was established in 1991 by the U. S. Congress to provide Department of Defense (DoD) with an opportunity to enhance the management of stewardship resources on over 25 million acres of land under DoD jurisdiction.

Legacy allows DoD to determine how to better integrate the conservation of irreplaceable biological, cultural, and geophysical resources with the dynamic requirements of military missions. To achieve this goal, DoD gives high priority to investigating, protecting, and restoring biological, cultural, and geophysical resources in a comprehensive, cost-effective manner, in partnership with Federal, State, and local agencies, and private groups.

Legacy activities help ensure that DoD personnel better understand the need for protection and conservation of natural and cultural resources, and that the management of these resources is fully integrated with, and supports, DoD mission activities and the public interest. Through the combined efforts of the DoD components, Legacy seeks to achieve its legislative purposes with cooperation, industry, and creativity, to make the DoD the federal environmental leader. For further information concerning the Legacy Program you can contact the Conservation Division, Environmental Programs Office Chief of Engineers, 2600 Army Pentagon, Washington, D. C., 20310-2600.

Management Summary

Yuchi Town (1Ru63) is a large, late prehistoric and historic site overlooking the Chattahoochee River in Russell County, Alabama. Located in a remote portion of Fort Benning, the site has escaped serious impacts from development or military training, but has, in recent years, become the focus of extensive illegal looting. Yuchi Town is a particularly sensitive cultural resource in that it is known to include human burials related to the historic Yuchi as well as earlier Native American occupants. To collect information needed for future management efforts, Fort Benning sponsored an archaeological assessment of looting at Yuchi Town. Funded by a Legacy Resource Management Program award (DoD Project No. 940683), the project was conducted by the Cultural Resources Research Center, U. S. Army Construction Engineering Research Laboratories (USACERL). Fieldwork at the site occurred in December, 1994, and February, 1995.

The primary focus of the USACERL investigations was to document the nature and extent of the impact of looting on the cultural deposits at Yuchi Town. Ancillary research topics focused on issues of subsistence, settlement, acculturation, and site formation processes. The field strategy was designed to allow a comparison of the nature and integrity of deposits in areas that had been extensively disturbed by looting with nearby areas characterized by little or no disturbance. Four blocks comprised of 24 test units were hand excavated, exposing a total area of 76 m^2. Two of the excavation blocks were in areas characterized by relatively numerous and/or large looter pits, whereas the other two blocks were in areas with little apparent looting.

The USACERL excavations identified a total of 78 cultural features, including the remains of three structures interpreted as domiciles. Pits and postholes were the most common feature categories. Less common feature types included basins associated with semisubterranean structures, wall trenches, faunal concentrations, hearths, clay lenses, and daub concentrations. One in-situ human burial was encountered. This was documented in-situ and then reinterred.

Ceramics dominate the recovered artifact assemblage. The pottery assemblage is dominated by the Chattahoochee Roughened, Lamar Incised, and Walnut Roughened types. The absence of any complicated stamp sherds suggests little or no occupation during the Abercrombie phase (A.D. 1550-1625). Most of the projectile points are assignable to the late prehistoric/historic period Guntersville type. The small assemblage of Euro-American artifacts is comprised largely of items of British origin dating to the first one-half of the 18th century. Five uncorrected radiocarbon assays range from 210 $\pm$ 70 to 370$\pm$ 70 years B.P. On balance, all lines of evidence suggest that most of the occupation in the investigated portion of the site dates to the Blackmon and Lawson Field phases, i.e., A.D. 1625 to 1825.

A total of 17 looter holes was identified within the USACERL units. Individual looter

holes varied in size, with lengths ranging from 40 to 250 cm, and depths ranging from 20 to 52 cm. Most (88%) of the investigated looter holes extended through the plowzone into previously intact cultural deposits. At least three of the looter holes appear to have disturbed human remains, and at least four disturbed architectural remains. The small size and nonrandom nature of the excavated sample does not allow these findings to be projected (in a statistical sense) to the site as a whole. The USACERL investigations do clearly indicate, however, that the 800 or more looter holes previously identified at Yuchi Town (Braley 1991, 1994) have had a very severe adverse impact on the site. Despite these impacts, Yuchi Town remains a very important source of archaeological and historical information, and a site of great social and religious significance to living Native American peoples. As such, the Yuchi Town site warrants continued preservation by Fort Benning.

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Acknowledgements

Credit for the successful completion of the Yuchi Town Damage Assessment project is shared by many individuals. Funding for the project was provided by a Legacy Resource Management Program award (DoD Project No. 940683) to Fort Benning. I would like to acknowledge Dr. Christopher Hamilton, Archaeologist, Directorate of Public Works, Fort Benning. Dr. Hamilton coordinated the project for Fort Benning, and was exceedingly patient with delays in the completion of the final report. Dean Wood played an important role in securing funding for the project and provided much useful advice based on his previous work at the site. Frank Schnell Jr. shared his expertise on the local material culture and provided guidance for the ceramic analysis. I would also like to thank the staff of the Uchee Creek Army Campground and Marina for their hospitality, use of a pontoon boat, and efficient scheduling of their fine cabins.

Dr. Kevin McGowan (Public Service Archaeology Program, University of Illinois) coordinated the PSAP crew that conducted the 1994-1995 fieldwork. Dr. Charles R. (Chip) McGimsey (1994 and 1995), Dr. Lynette Norr (bioarchaeologist) (1994 and 1995), and Francis Knight (1995) served as site supervisors. Bill Flesher used a Sokkia EDM to map the site. The 1994 field crew included Mike Brown, Bill Flesher, Madeleine Garceau, Scott Legge, Jason Sanders, Betty Jo Stokes, Anne Titlebaum, and Vince Veesleuis. The 1995 field crew included Mike Brown, Todd Brenningmeyer, Pennie Copley, Stacy Craft, Randy Fink, Madeleine Garceau, Andrew Gorman, Eric Sipes, and Betty Jo Stokes. The radiocarbon samples were processed by Dr. Chao-Li Jack Liu, Illinois State Geological Survey, University of Illinois. Flotation samples were processed by Greg Walz and other PSAP personnel.

At USACERL, Carrie Small directed the wash lab and conducted the ceramic typological analysis. Rebecca Craig and Amy Usarski conducted the lab work, and Lynn Richardson volunteered as a lab worker. Nguyen Vo and Jill Purcell input and reformated a number of the tables. Jun Kinoshita and Jeanne Genis used AutoCAD to produce most of the figures that appear in this report. Sandy Bantz assisted with the refinement of other graphics. Aaron Chmiel photographed the lithic artifacts and the staff of Scientific Illustration at Southern Illinois University, Carbondale, photographed the historic items. Dr. John Isaacson assisted in the early stages of planning and organizing the project. As the project neared completion, Dr. Harold Balbach arranged for much-needed assistance from the USACERL graphics and duplicating offices.

Throughout the course of this project, I have benefited from conversations about Yuchi Town with a number of people. These include Dr. Chris Hamilton and Paul Webb, who provided written comments on the draft report. Dr. Cameron Wesson provided a number of useful insights about the Yuchi Town ceramics and architectural remains.

Chapter 1
Introduction and Previous Investigations

Michael L. Hargrave

This monograph represents the final report on an assessment of the impact of looting on cultural resources at the Yuchi Town site (1Ru63). Yuchi Town is a very large, prehistoric and historic period site overlooking the Chattahoochee River in Russell County, Alabama (Figure 1-1). The site is located within a remote portion of Ft. Benning and has escaped serious impacts from development and military training activities. Yuchi Town is recognized as an ancestral home of the present day Yuchi, many of whom now reside in Oklahoma. It is known that the site includes cemetery areas for the Yuchi and earlier occupants. In recent years Yuchi Town has unfortunately become the focus of intensive looting. The investigations reported here were conducted by the Cultural Resources Research Center, U.S. Army Construction Engineering Research Laboratories, under a grant awarded to Ft. Benning by the Legacy Resource Management Program (FY1995). Field work was conducted December 5-14, 1994, and February 20-March 1, 1995.

Previous Investigations

Yuchi Town was visited and described in the later 18th century by William Bartram and Benjamin Hawkins (see Chapter 2). The archaeological site corresponding to the Native American town described by Bartram and Hawkins was located in 1958 by David Chase, an avocational archaeologist stationed at Ft. Benning. Based on information provided by Bartram, Chase expected to find the site very near the mouth of Uchee Creek. However, the density of artifacts he found in that area did not suggest the presence of a major town site. Continuing his search downstream, Chase first found site 1Ru57, located to the northwest of and across a deep gully from Yuchi Town proper (1Ru63). Small scale investigations suggested that 1Ru57 was primarily a pre-Yuchi Averett occupation. Chase subsequently found rich deposits of artifacts in a plowed fire break just downstream from 1Ru57 (Braley 1994:1). This site, designated as 1Ru63, is now recognized as the site of the Yuchi Town settlement described in 18th century sources. Some (not all) archaeologists assume that 1Ru57 is also part of Yuchi Town, and this view is reflected in the documents supporting Yuchi Town's nomination to the National Register of Historic Places. The investigations reported in the present monograph shed no new light on this issue, as they included no work at 1Ru57. Throughout this report, unless specified otherwise, all references to archaeological work at Yuchi Town refer to the northwestern portion of 1Ru63.

Initial excavations at Yuchi Town were conducted in 1958 by Chase and Harold Huscher. At that time, Huscher was involved in the River Basin Survey of the Chattahoochee River,

in preparation for the impoundment of the Walter F. George reservoir. Both individuals undertook additional work at the site from 1960 to 1962. All of these excavation units were located within the northwestern portion of the site, between N1515 W2540 and N1485 W2620. The excavation units encountered burials, rectangular clay-lined pits, postholes (some with in-situ posts), and structures. Fifty feature numbers were assigned by Huscher (Braley 1994: appendix a). Grave goods included pottery vessels, glass beads, brass hawk bells and buttons, a shell gorget, and a musket (Schnell 1982; Braley 1992:3). The largest unit, designated X-4, was excavated by Huscher in 1962. An apparently unexpected reduction in the operating budget for the River Basin Survey caused work at the Yuchi Town site to cease before completion or backfilling of unit X-4 (Braley 1994). Results of the 1958-1962 excavations were never published.

Braley (1994) recently assessed the status and condition of the field records and artifacts from the 1958-1962 work at the site. That assessment was undertaken in preparation for a stabilization of site areas affected by the 1958-1962 excavations and subsequent looting. Braley reports that most of the excavated artifacts are stored at the Columbus Museum, on loan from the Smithsonian. Artifacts recovered by Chase are reported to be washed and well packaged in cloth bags. Materials collected by Huscher are stored in paper bags and, for the most part, have not been washed. Overall, the provenience information ranges from poor to good. The observed range in artifact size suggests that, at best, large (greater than .5 inch) mesh screens were used. It also appears that only the largest, best preserved faunal specimens were retained. The volume of the 1958-1962 Yuchi Town collections is estimated to be 35 cubic feet (Braley 1994:6-7).

Braley observes that as many as 1600 burials and 28,000 postholes could be present in the western (i.e., northwestern) one-half of the site. This estimate is based on the number of features identified in the 1958-1962 excavations, and assumes an even distribution of features across the entire site (Braley 1994:6). While it is certain that features are not evenly distributed, Braley's estimate is useful in conveying the magnitude of the cultural deposits present at the site.

A systematic effort to identify the limits of the Yuchi Town site was undertaken in 1981 by Frank Schnell Jr., an archaeologist with the Columbus Museum. Schnell excavated a total of 67 shovel probes. The probes were spaced at 30 m intervals in five northeast-southwest transects. The distance between the transects was approximately 200 m. Schnell identified two areas of relatively dense artifacts. One of these areas was located directly opposite the mouth of Oswichee Creek while the other was approximately 450 m to the southeast. Overall site dimensions were determined to be 1000 m northwest-southeast by at least 360 m northeast-southwest. Schnell determined that the Yuchi Town site is eligible for nomination to the National Register of Historic Places and qualifies for National Historic Landmark status (Elliot et at. 1994:91).

Additional shovel probes were excavated at 1Ru57 and 1Ru63 during a survey of the Chattahoochee River floodplain conducted by Water and Air Research, Inc. (Dickinson and Wayne 1985). A total of 388 sherds was recovered in 32 shovel probes at 1Ru57. Ceramics were particularly abundant within a two hectare portion of the site located approximately 650 m southeast of the mouth of Uchee Creek. Twenty-four shovel probes in the southeastern portion of the Yuchi Town site produced more than 160 sherds (Dickinson and Wayne 1985; Braley 1992).

Yuchi Town was again investigated in 1991, in the context of a survey of areas slated for timber harvesting. A total of 121 shovel probes was excavated at site 1Ru57, with artifacts recovered in 60% (n=73) of the probes. Many of the probes were located along the terrace edge overlooking the river, and all of these probes were positive. Diagnostic artifacts included Chattahoochee Brushed sherds, bronze (brass?), and a glass bead (Benson 1993).

Previous investigations of the Yuchi Town site have provided a general idea of the chronology of site occupations. Chase was convinced that he had located Yuchi Town when he found that the rich deposits at 1Ru63 included kaolin pipe fragments, green bottle glass, gun flints, and (among the botanical contents of a pit feature) peach pits. An abundance of shell tempered pottery, Dallas Plain and Incised ware, corn cob roughened sherds, and burnished orange or black plain bowls and pots suggested a substantial Ocmulgee Fields I occupation. Chattahoochee Brushed and Casita Red Filmed pottery indicated an Ocmulgee Fields II component (undated notes by Chase, see Braley 1994). Based on his shovel probe surveys, Schnell identified Lamar (A.D. 1400-1500), Abercrombie (A.D. 1550-1650), and Ocmulgee Fields (A.D. 1715-1836) components at the site. Braley notes that the presence of pre-Yuchi occupations is evidenced by blue glass (Ichtucknee plain) beads, a hoe of Spanish origin, and the occurrence of cradleboard deformation of crania recovered in Feature 50 (Braley 1994:6). Refinements in the local ceramic based chronology (Schnell 1990:67-69) indicate that the Yuchi Town site includes a substantial Blackmon phase (A.D. 1625-1715) component. Braley raises the possibility that the site may include one of the four towns burned by the Spanish in 1685 (Corkran 1967:50-51). Ceramics typical of the (Yuchi) Lawson Field (A.D. 1715-1835) phase, trade items of English origin, and extended and bundle burials are present within the northwestern portion of the site. On balance, available evidence suggests that occupations in the southeastern portion of the site date to the 17th and 18th centuries and are largely pre-Yuchi, whereas later 18th-early 19th century (Yuchi) materials are most abundant in the northwestern area (Braley 1992:2).

Previous Assessments of Looting

Chase found no evidence of looting when he located the Yuchi Town site in 1958 (Elliot et al. 1994:93). Looting almost certainly began when word of the 1958-1962 professional excavations reached disreputable elements of the local artifact collector community. Braley suggests that looters were particularly active at the site during the 1980's (Braley 1994:1).

In August, 1992, archaeologist Dean Wood discovered evidence of recent looting at the Yuchi Town site (Wood 1992). Wood observed numerous small shovel holes and several larger pits, all of which had been backfilled, presumably in an attempt to conceal their existence. Clear boot and hand prints in the fresh soil indicated the looting had occurred very recently. Wood notified the Ft. Benning Environmental Management Division and subsequently assisted Military Police and Game Wardens in documenting the looting.

In October, 1991, the Savannah District U.S. Army Corps of Engineers contracted with Southeastern Archaeological Services, Inc. (SAS), to assess the damage to the site resulting from looting, and to gather evidence which might be useful in a prosecution of looters under the Archaeological Resources Protection Act (Braley 1991). Two 40 by 100 m blocks were carefully inspected, one located in the northern portion of the site and the other in the south. Seventy-one looter holes were identified, including 58 small (30 cm diameter) holes and 13 large (more than one meter diameter) pits. Four of the largest pits (three in the south block, one in the north) were reexcavated. One of the south block looter pits produced disturbed remains of five different people, whereas the remains of one individual were recovered from each of the other looter holes. A single shovel test within a fifth looter hole recovered a human tooth. The 1991 study concluded that the five looter holes investigated had disturbed the graves of at least nine individuals. The looters appeared to have used probes to locate graves and metal detectors to locate historic artifacts (Braley 1991).

While the SAS archaeologists investigated selected areas, Wood flagged all extant looter holes. The flagging was intended to facilitate a systematic mapping of the holes, and to allow the recognition of new holes. Mapping of looter holes at the northwestern end of the site was accomplished in 1993 and 1994, with approximately 800 suspected looter holes identified (Braley 1994:6).

In order to mitigate previous impacts and prevent additional damage to the Yuchi Town site, Ft. Benning undertook a multifaceted program of research, public education, and site monitoring (Dean Wood, personal communication, 1994). Work accomplished in 1993 included production of a public education poster, a survey of threatened and endangered species, removal of undergrowth from a 25 acre clearcut area, construction of a trail around the north end of the site (to facilitate monitoring), and thinning of the understory in areas selected for installation of an electronic monitoring system. Work completed in 1994 included Braley's summary report of the 1958-1962 investigations. Additional work planned but not yet completed includes development and installation of the (Hiprotect) electronic monitoring system, improvement of access roads, additional data recovery and restoration of the 1962 Smithsonian excavations, preparation of a final technical report on the site, and installation of interpretive panels at the site. The assessment of the impact of looting on site deposits reported here represents another aspect of the Ft. Benning Yuchi Town program.

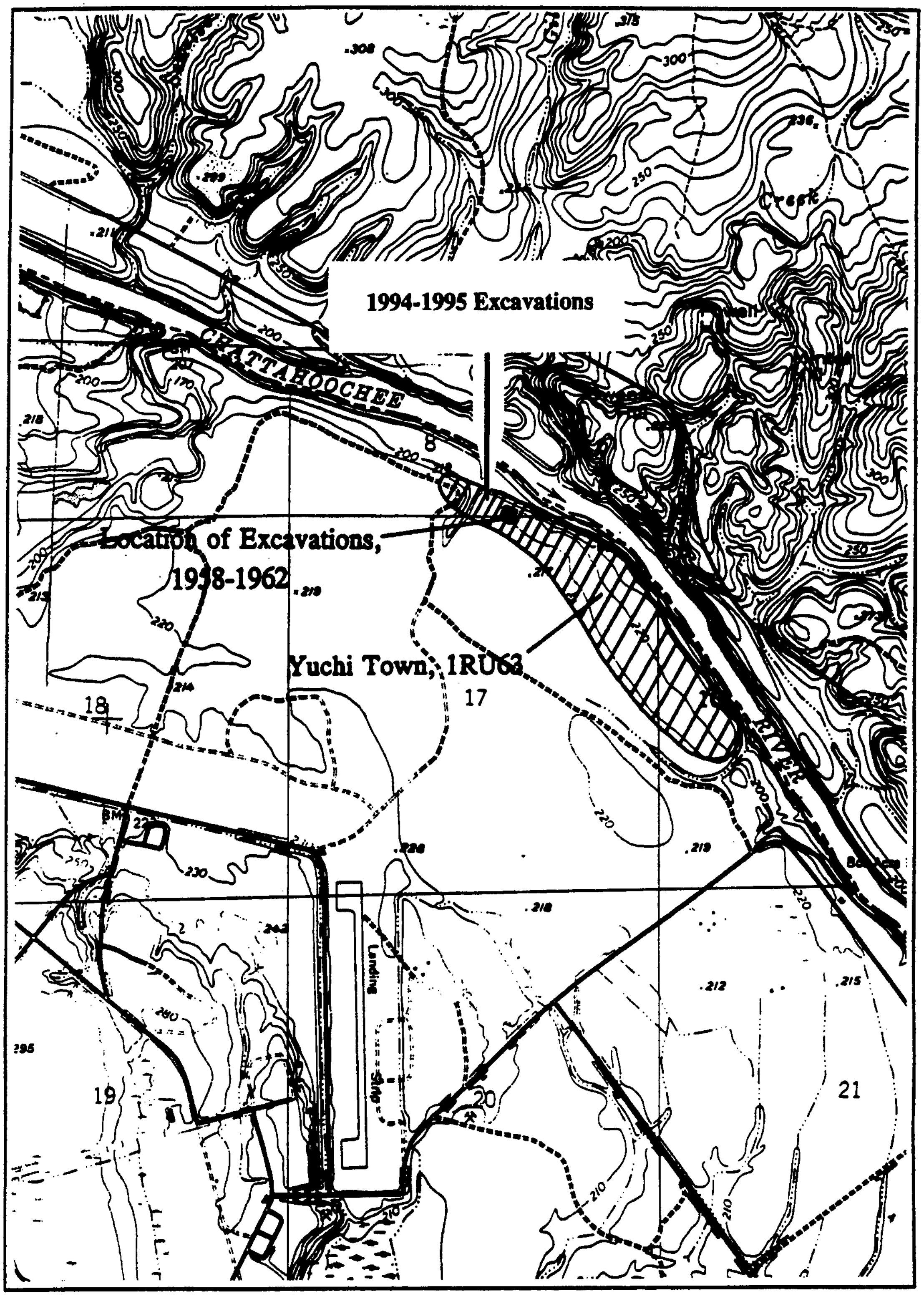


Figure 1-1. Location of 1994-1995 Excavations at Northwest End of Yuchi Town Site (1RU63). (After Braley 1994:2).

Chapter 2
Natural and Cultural Setting

Michael L. Hargrave

Physiography

The Yuchi Town site is situated on the west bank of the Chattahoochee River, in eastern Russell County, Alabama. With headwaters in the Blue Ridge province of northeast Georgia, the Chattahoochee flows through the Piedmont and Fall Line Hills physiographic provinces, into the Coastal Plain (Espenshade 1992:3). The falls at Columbus, Georgia, mark the northern extent of the lower Chattahoochee River. South of the falls, the river begins to slow and meander through the coastal plain until it joins the Flint River, some 165 km south of Ft. Benning (Fenneman 1938; Poplin and Goodwin 1988:7; Roemer et al. 1994:5). In 1791, Bartram reported that the Chattahoochee River at Uchee Creek was 300-400 yards wide and 15-20 ft deep (Bartram 1928:312; Espenshade 1992:4). Major tributaries of the Chattahoochee in the Ft. Benning project area include Uchee, Upatoi, Ochillee, Pine Knot, Randall, and Oswichee Creeks. The larger of these stream valleys (e.g., Ochillee, Oswichee, and Upatoi Creeks) are narrow and deep at their mouths but broad, with gentle slopes further upstream (LaForge et al. 1925; Poplin and Goodwin 1988:18). Uchee Creek is of special interest here, as the Yuchi Town site is located a short distance south of the point where Uchee Creek enters the Chattahoochee River. Uchee Creek originates in the Fall Line Sand Hills of southeastern Alabama (Espenshade and Roberts 1992:4), and its floodplain has a maximum width of about 800 m (Wayne and Dickinson 1985:2-7).

The Ft. Benning project area is located within the Fall Line Hills, at the intersection of the East Gulf Coastal Plain (to the south) and the Piedmont (to the north) (Sapp and Emplincourt 1975). The Fall Line Hills are characterized by fairly (30 to 60 meter) deep valleys forming a valley, ridge, and plateau system. The hills define the rim of the Chattahoochee basin (Dickinson and Wayne 1985:2-6). Elevations within Ft. Benning range from 58 to 225 m ASL. The project area is made up of two land form types, low plains and high plains. The low plains are found along the Chattahoochee and its tributaries. Here the land is flat to gently rolling in floodplain areas and gently to moderately rolling elsewhere. The high plains consist of moderately rolling to hillocky, irregularly shaped plains. At Ft. Benning, the high plains generally occur at elevations between 90 and 150 m ASL (Roemer et al. 1994:5).

Geology and Soils

Geological formations of the Ft. Benning study area date to the Upper Cretaceous and

Recent epochs. The Recent alluvium and undifferentiated terrace deposits occur along the Chattahoochee River and Upatoi and Oswichee Creeks. These alluvia are immature soils comprised of lenses of sand, silt, and clay. Unlike the soils found across much of Ft. Benning, these floodplain deposits are not depauperate in organic content. Elsewhere, the heavy rainfall and year-round moderate temperatures result in a rapid leaching of organic materials (USDA 1928; Wayne and Dickinson 1985:2-7).

The uplands (sand hills) are made up of Cretaceous deposits. In general, the Cretaceous materials decrease in age as one moves seaward from the Fall Line. From youngest to oldest, the Cretaceous deposits are the Cusseta, Blufftown, Eutaw, and Tuscaloosa. The Cusseta sand deposits occur only in the extreme southern and southeastern portions of the installation. These deposits consist of relatively fine, loose yellowish sand with some clay underlain by coarse, cross-bedded, loose yellowish sand with pebbles (Cooke 1943; Poplin and Goodwin 1988:9). Blufftown deposits occur throughout much of the southwestern portion of the installation. They include gray calcareous sand, micaceous black and gray clay, and calcareous rock layers, with coarse sand and sandstone at the lowest levels of the formation. These deposits are the parent material for the fine micaceous sand soils which support relatively dense deciduous forests. The Eutaw formation is found across the southern and eastern one-third of Ft. Benning. It consists of some 30 m of clary sand and platy sandy clay overlying a gray or iron stained coarse sand. Soils derived from these deposits are well drained and support relatively open vegetation (Dickinson and Wayne 1985:2-7; Shogren 1992:6). The Tuscaloosa formation occurs across the northern two-thirds of the installation and consists of firm, buff colored sand and clay. It is primarily cross-bedded and contains lenses of sandy clay. Near the margins of the Piedmont are found significant amounts of angular quartz pebbles, with grain size decreasing as one moves away from the Piedmont (Cooke 1943; Poplin and Goodwin 1988:7-11). Many of the well drained to excessively well drained soils are derived from the Tuscaloosa formation. These soils support relatively less dense vegetation. It is in these soils that one finds major stands of sand hill vegetation, including *Pinus palustris* and scrub oaks (Kohler et al. 1980:1; Shogren 1992:6).

Modern data on soils are lacking for much of Ft. Benning, including Russell County. The available soil map for Russell County dates to 1915 and many of the soil descriptions are now outdated (USDA 1915). Soils of Russell County have been reclassified but the new soil maps have not yet been published (Hamilton 1993:5). Dickinson and Wayne (1985:4-11) redrew the 1915 USDA soil maps and provided some discussion of selected soils. The Yuchi Town site is located within an area of Cahaba fine sandy loam. Cahaba soils occur on old stream terraces and generally represent the best-drained portions of these landforms. As such, Cahaba soils are excellent for agricultural use.

Vegetation

The Ft. Benning study area is located within the Southeastern Evergreen Forest Region

defined by Braun (1950). Kroeber (1963) describes the vegetation pattern of the study area as mesophytic evergreen forest with pockets of swampland. Relatively undisturbed areas near Lawson Field are characterized by *Pinus palustris* and associated sand hill species (Dickinson and Wayne 1985:2-8), whereas the southern portions of Ft. Benning are characterized by mixed pine and hardwoods. Much of Ft. Benning, including the Yuchi Town site, is within the Chattahoochee floodplain zone. Here extensive disturbance associated with agriculture and logging has resulted in second growth, early seral stage communities, generally comprised of dense pines and hardwoods. Nearly filled oxbows in the southwestern portion of the Ft. Benning area are characterized by bottomland swamp forest. Principal taxa include tupelo, cypress, willow, and buttonbush. Around the margins of the bottomland swamp forests are found water-tolerant oaks and hickories, sweetgum, beech, river birch, ash, maple, cottonwood, sycamore, hackberry, honey locust, holly, bay, magnolia, pine, and cedar (Hunt 1967; Dickinson and Wayne 1985:2-9).

Prehistory and History of the Study Area

The following section provides a brief overview of the prehistory and early history of the Ft. Benning study area. The discussion is based on work by previous researchers, including Elliott et al. (1994), Gresham et al. (1985), and Hamilton (1993). The late prehistoric and early historic periods are emphasized, as they are most relevant to the investigations at Yuchi Town which are the focus of this monograph. Note that date ranges assigned to the periods vary somewhat among researchers.

Paleoindian (10,000 to 8,000 B.C.)

The Paleo period begins with the earliest entry of humans into the region, now generally assumed to have occurred by 10,000 B.C. Paleo materials are rare in the study area and occur there (as they generally do elsewhere in the region) as isolated surface finds (Anderson et al. 1990). Seven Paleo sites have been identified at Ft. Benning (Elliott et al. 1994:105). Clovis type bifaces are distinctive of the early portion of the Paleo period. Clovis points are finely flaked, lanceolate in shape, and generally exhibit fluted bases. Dalton and Tallahassee type points appear during the later portion of the period. Dalton points are triangular to pentagonal lanceolate forms with incurvate thinned (and usually ground) bases, whereas Tallahassee points are long triangular forms with serrated edges and concave bases (Elliott et al. 1994:20, 23). The Paleo period was characterized by small, highly mobile groups. They are traditionally viewed as big game hunters but probably also exploited a wide range of smaller animals as well as some plant foods (Roemer et al. 1994:28).

Early Archaic (8,000 to 6,000 B.C.)

Sites dating to the Early Archaic period are fairly well represented in the upper Coastal Plain (Braley and Mitchelson 1984; Hamilton 1993:9). Thirty-eight Early Archaic components

have been recorded at Ft. Benning (Elliott et al. 1994:116). Early Archaic occupations are identified based on the occurrence of distinctive corner-notched and side-notched bifaces including the Bolen, Big Sandy I, Kirk, and Palmer types. Lithic assemblages of this period also include finely flaked unifacial and bifacial tools such as gravers, side and end scrapers, burins, adzes, and backed knives (Elliott et al. 1994:116). Megafauna were extinct by the beginning of the period. Early Archaic settlement and subsistence strategies continued to be characterized by small, highly mobile bands which may have aggregated when resource availability permitted. Deer are assumed to have played an important role in the Early Archaic hunting and gathering economy.

Middle Archaic (6,000 to 3,000 B.C.)

Stemmed projectile points, including the Stanley, Morrow Mountain, Elora, Guilford, and Benton-like types are diagnostic of Middle Archaic components. To date, 27 Middle Archaic components have been recorded at Ft. Benning. There is some evidence that the overall tool assemblage is less diverse than that of the preceding period, and this presumably reflects shifts in resource use (Elliott et al. 1994:118). The Middle Archaic coincides with the altithermal, a warmer, drier interval. Oak hickory forests were replaced by less productive pine forests. These environmental changes were accompanied by a shift to a broader diet, including nuts, other plant foods, fish and shellfish, as well as the continued exploitation of large mammals (Carbone 1983; Gresham et al. 1985; Sassaman 1983). Other important trends include decreased mobility and territory size and the first indications of extra-local exchange (Elliott et al. 1994:118)

Late Archaic (3,000 to 1,000 B.C.)

The Late Archaic is marked by a number of changes in material culture, including the use of grinding and "nutting" stones, other groundstone artifacts, large stemmed projectile points, and atlatls. Pottery appears by the end of the period. These developments occurred in the context of increases in population, sedentism, use of riverine and coastal resources such as shellfish, and reliance on plant foods. Sunflower and squash were cultivated during the Late Archaic (Elliott et al. 1994:118, 120; Gresham et al. 1985:24; Hamilton 1993:9). Thirty-seven Late Archaic components have been identified at Ft. Benning (Elliott et al. 1994:120).

Transitional Late Archaic/Early Woodland and Gulf Formational (2,500 to 700 B.C.)

Elliott et al. (1994:120) note that a number of sites at Ft. Benning have been assigned to the Gulf Formational and Late Archaic/Early Woodland transitional categories. It is not entirely clear, however, what criteria are used to differentiate these two categories. Components dating to this interval are characterized by fiber tempered pottery and stone (soapstone or sandstone) bowls as well as a continued use of stemmed projectile points. During the later portion of this interval, groups in the Ft. Benning study area appear to have

maintained trade relationships with the Poverty Point culture of central Louisiana. Forty-seven of the known sites at Ft. Benning are categorized as transitional Archaic/Early Woodland and 40 as Gulf Formational (Elliott et al. 1994:122).

Early Woodland (1,000 B.C. to A.D. 1)

The Early Woodland period is marked by the widespread adoption of sand and grit tempered pottery. In the study area, the terms Deptford and Cartersville have been used more-or-less interchangeably. The dominant vessel form is a wide mouth conical jar, presumably used for storage rather than cooking. Vessel exteriors commonly display surface impressions made using cordwrapped dowels or twilled fabric (Dunlap Fabric Impressed), or paddles bearing simple checked (Deptford or Cartersville) or linear (simple stamped) designs (Gresham et al. 1985:24). Stemmed projectile points continue to be used, but with more variation in size and shape than was seen during the Late Archaic. Large triangular points are also characteristic of the period (Elliott et al. 1994:125, 128; Hamilton 1993:11).

The Early Woodland is believed to be marked by greater sedentism and use of horticulture. The construction of conical burial mounds is thought to represent the beginning of kin-based hierarchical social organization. Thirty-one Early Woodland sites are known at Ft. Benning. The distribution of sites indicates a shift away from the Chattahoochee floodplain (Elliott et al. 1994:128; Hamilton 1993:11).

Middle Woodland (300 B.C. to A.D. 100)

Middle Woodland ceramic assemblages are characterized by the appearance or continued use of Deptford and/or Cartersville series pottery. The later portion of the period saw the development of the complicated stamped patterns of Swift Creek pottery (Roemer et al. 1994:31). Early Swift Creek projectile points are characterized by very broad stems (Chase n.d.; Elliott et al. 1994:131). At Ft. Benning, Swift Creek sites generally appear to represent very small settlements, with the possible exception of the Quartermaster site (9Ce42). A total of 63 Middle Woodland sites have been recorded at Ft. Benning. Sites dating to this period tend to be located along the Chattahoochee River floodplain (Elliott et al. 1994:131).

Late Woodland (A.D. 100 to 900)

Swift Creek complicated stamped pottery continued throughout much (possibly all) of the Late Woodland period. The Upatoi Complex is used by some researchers in reference to Late Woodland ceramic assemblages comprised of locally manufactured plain, grit and/or sand tempered wares co-occurring with decorated types from neighboring areas. To the extent that the Upatoi Complex is a valid cultural unit, it reflects the emergence of the Fall Hills as a culturally distinct region. Elliott et al. (1994:134) note, however, that the Upatoi complex

is not adequately documented.

Only 13 Late Woodland sites have been located at Ft. Benning. The period is presumably characterized by a continued increase in the use of cultigens, but site distribution does not appear to be focused on riverine environments (Elliott et al. 1994:134). South of the project area, the Late Woodland period is marked by the occurrence of large sites with dense middens and the construction of burial and substructure mounds. However, there is no evidence for such sites at Ft. Benning (Gresham et al. 1985:25).

Mississippian (A.D. 900 to 1540)

Throughout most of the southeastern U.S., the Mississippian period is characterized by hierarchically organized societies based on food production. Characteristic practices include elaborate religious iconography, construction of burial and temple mounds, and the cultivation of maize, beans, squash, and other cultigens (Elliott et al. 1994:136). In the study area, as in many other regions, the Mississippian period is divided into early, middle, and late subperiods.

Early (Emergent) Mississippian (Averett Culture)

The Early Mississippian period at Ft. Benning is manifested by the Averett culture. Averett was defined by Chase based on his investigations of the Averett site in Muscogee County, just north of Ft. Benning (Chase 1958, 1959; Elliott et al. 1994:136). Excavations at the Carmouche site produced substantial data relevant to the Averett culture (Gresham et al. 1985). Artifacts characteristic of Averett include small, triangular projectile points and grit or sometimes sand tempered pottery bearing plain, brushed, or (much less commonly) incised surfaces. Averett incised pottery can be differentiated from later Lamar sherds based on the absence of curvilinear design elements in the former (Elliott et al 1994:136). The apparent absence of mounds may indicate that the Averett culture was organizationally less complex or hierarchical than the Rood and Etowah phase cultures. G. Schnell (1981) suggests that the Fall Hills may have represented a frontier separating those two chiefdoms (Gresham et al. 1985:25).

Middle Mississippian (Rood Phase)

The middle interval of the Mississippian period at Ft. Benning is manifested by the Rood Phase. Rood phase culture is best know from early investigations at the Rood's Creek (aka Rood's Landing) (Caldwell 1955) and Cemochechobee (Schnell 1981) sites. Both of these sites are located on the Chattahoochee downstream from Ft. Benning. Both represent multiple mound centers and were presumably the major social and population centers for a small chiefdom whose northern limits barely reached Ft. Benning (Elliott et al. 1994:144). Jenkins (1978) divided the Rood phase sequence into three parts, with Rood Creek I dating A.D. 900-1200, Rood Creek II dating 1200 to 1300 A.D., and Rood Creek III dating A.D. 1300

to 1400. The latest division is thought to be coeval with the Bull Creek phase (Elliott et al. 1994:147).

Seven Rood phase sites have been located at Ft. Benning. Five of these are situated near the Chattahoochee (Elliott et al. 1994:147), whereas two are located along Upatoi Creek; (one of these is the Carmouche site). Rood phase pottery is characterized by shell and grit tempering. Both jar and bowl vessel forms occur. Plain surfaces are dominate but incised line decoration also occurs (Hally 1976; Poplin and Goodwin 1988:31).

Late Mississippian (Bull Creek Phase)

The late division of the Mississippian period at Ft. Benning is manifested by the Bull Creek phase (A.D. 1400 to 1475) (Schnell 1990:67). This phase is a regional expression of the Lamar culture and is centered in the Bull Creek drainage in Muscogee County, just north of Ft. Benning. The Bull Creek phase is characterized by large villages and platform mounds, as well as smaller (presumably homestead) sites (Hamilton 1993:14; Knight and Mistovich 1984). The phase represents a time interval that was characterized by an increased intensity of occupation of the study area. Nineteen Bull Creek sites have been identified at Ft. Benning. Most of these are located along the Chattahoochee, but a secondary cluster is located on Ochillee Creek (Elliott et al. 1994:149).

Complicated stamping is the dominant ceramic decorative trait, making up 60% of the Bull Creek assemblage. Thirty-five percent of the assemblage is plain, whereas incised and punctated sherds make up less than 4%. Mercier Check stamping is present, and four negative painted dog effigies have been recovered (Schnell 1990:67). Architectural attributes include square floor plans, individual post construction (as opposed to wall trenches), central roof supports, and use of daub wall cladding (Schnell 1990:67). A flexed posture characterizes about 75% of the known burials and grave goods are rare or absent. A minority of the burials exhibit semi-flexed or extended postures (Schnell 1990:67).

Protohistoric and Historic

In the Ft. Benning study area, as elsewhere in the region, aboriginal Lamar pottery continued to be manufactured into the protohistoric and historic periods. Pottery dating to the late prehistoric period is very difficult to differentiate from that of the protohistoric and early historic period. In the absence of radiocarbon assays, post contact features and components can not be recognized unless European trade items are also present.

Stewart Phase

The Stewart phase (A.D. 1475-1550) overlaps with the interval of initial European contact. Schnell (1990) notes that Stewart represents a time of cultural disruption due to the

introduction of European diseases. Initial, unsuccessful attempts to establish colonies in the Southeast occurred in 1520 (de Allyon) and 1528 (Narvaez). De Soto moved through areas adjacent to the study area in 1539 (Brain 1985). A colony established in the Coosa province in 1558 by de Luna lasted for three years (Roemer et al. 1994:34).

The Stewart ceramic assemblage is marked by an increase (to 55%) in plain surfaces, and a decrease (to about 20%) in the occurrence of Lamar Complicated Stamping. Up to 15% of the Stewart assemblage is comprised of incised and punctated sherds, and Mercier Check Stamping continues to occur. Tempering agents include coarse grit (Schnell 1990:68).

Architectural traits of the Stewart phase include square and rectangular floor plans, single post wall construction, central roof support posts, and use of whole cane wattles with clay daub. Knowledge of mortuary practices is based on only two burials. These indicate the occurrence of extended burial postures and the absence of grave goods (Schnell 1990:68).

Abercrombie Phase

The Abercrombie phase (A.D. 1550 to 1625) corresponds to a time interval during which the Spanish, English, and French established short-lived outposts as well as the initial permanent settlements (St. Augustine in 1565, Jamestown in 1607) along the coasts of Florida, Virginia, and Carolina. The phase is characterized by a relatively low frequency of sites, suggesting a continued decline in population density, presumably caused by a rapid spread of European diseases (Knight and Mistovich 1984:225).

The Abercrombie ceramic assemblage is dominated by plain (smoothed, burnished, polished) surface treatments. Complicated stamped surfaces decrease in popularity, occurring less frequently than incising and punctuating. Grit and shell are both used as tempering agents and shell is common (Schnell 1990:68). Some shell tempered sherds found at Ft. Benning have been identified as Dallas or Mouse Creek types, suggesting the possibility of exchange or population movements from the Tennessee River valley (Elliott et al. 1994:149).

Architectural traits of the Abercrombie phase include the possible use of semisubterranean houses, and there is one example of a baked clay floor. There is a continued use of single post wall construction techniques, and of the use of whole-cane wattles (and daub) on wall interiors with split-cane used on exterior surfaces (Schnell 1990:68).

Mortuary programs include extended and flexed burial postures, and shallow and deep graves. Spanish trade items occur as grave goods with some burials, but shell ornaments are the most common type of mortuary inclusion. Grave goods occur most commonly with children and adolescents (Schnell 1990:68).

Blackmon Phase

The Blackmon phase (A.D. 1625 to 1715) was defined on the basis of excavations at the Blackmon site in the Walter F. George Reservoir. Blackmon phase pottery was present at the Ft. Apalachicola site, tightly dated to the interval 1689 to 1691 (Hamilton 1993:14). Burials dating to the Blackmon phase at Yuchi Town include Spanish trade items (Braley 1991).

The Blackmon Phase assemblage is marked by the absence of stamped surface treatments (Knight and Mistovich 1984; Schnell 1990), the common occurrence of shell tempering, and the presence of the Ocmulgee Fields Incised, Walnut Roughened, and Kasita Red Filmed types. Grit tempered Chattahoochee Brushed is absent (Schnell 1990:69).

The Blackmon phase represents a time interval when the Spanish maintained control of Florida and sought to deter the spread of British influence into the interior. Initial Spanish outposts in Florida were focused primarily on protection of Spanish treasure fleets and the conversion to Christianity of the coastal groups (Braund 1993:28). Trade with groups in the interior was limited and indirect, conducted at Pensacola and scattered missions and settlements, and through Apalachee allies. The Spanish-Native American trade consisted largely of the exchange of deerskins and foodstuffs for European items such as glass beads, brass ornaments, cloth, iron tools, and rum. (Braund 1993: 28).

Soon after the establishment of a British colony in Virginia in the early 17th century, the Westo began to acquire firearms and use them against their neighbors. When Charleston was established, Creek groups in the interior sought to develop trading relationships with the English. Henry Woodward led the first large trading expedition into the study area, arriving at Coweta in 1685.

> "Woodward's packtrain was the beginning of the most powerful factor in Muscogulge life for the remainder of the colonial period: the trade of flintlock muskets, metal tools, and European textiles for Indian deerskins and other produce, including captive enemies" (Braund 1993:29).

The Spanish attempted to forcibly halt the development of Creek-Anglo trade. In 1685 a force of 250 Spanish soldiers burned four Creek towns along the Chattahoochee, including Coweta and Cussita, but failed to capture Woodward's party. Some Creek settlements shifted eastward to the Ocmulgee River in order to be closer to their British trading partners. Much of the Creek-Anglo trade took place at Carolina plantations or in Charleston. In addition to deerskins, English settlers in Carolina traded for horses and slaves. The Creeks acquired horses from the Spanish, sometimes through trade but more commonly by raiding. At the same time, the Creeks looked to the Choctaw and depopulated groups along the Gulf Coast as a source of captives for the slave trade (Braund 1993:31).

The establishment of French settlements at New Orleans and Mobile added a third European party to the struggle for control of trade with indigenous Southeastern groups. Firearms from the French made the Choctaws less vulnerable, and encouraged the Creeks to intensify raiding of Spanish allies in Florida. With the outbreak of Queen Ann's War in 1702, the Creek joined the British against the French, Spanish, and their Indian allies. In 1704, Creek and English forces destroyed Spanish missions, ranches, and associated Apalachee settlements. Apalachee and the lower reaches of the Alabama River became a Creek province (Braund 1993:33).

By 1715, unprincipled trading practices, the expansion of Carolina settlements, decreases in deer population, and the waning slave trade led to the outbreak of the Yamasee War. A well-coordinated attack was launched by the Yamasees, Catawbas, and neighboring tribes, and more than 100 British traders throughout the Carolina back country were slain. The Creeks joined the Yamasees whereas the Chickasaws and Cherokees sided with the English. Retaliation by the South Carolina militia was harsh, resulting in the near extermination of the Yamasee and some of their allies. Peace was officially restored in 1717. Results of the Yamasee War included an expansion of English settlements westward into the interior, the virtual end of the Creek-Anglo trade in Native American slaves, and a movement of the Creeks back to their old town sites along the Chattahoochee River (Braund 1993:35; Waldman 1985:105). For the next decade, the English and Spanish vied for the favor of the Creeks. The greater desirability of English trade goods ultimately led the Creek back into an alliance with the Carolina colonies.

Lawson Field Phase

The Lawson Field phase (A.D. 1715-1835) began with the return of Creek and other (e.g., Yuchi) groups to the Chattahoochee River valley following the Yamasee War. Mistrust of the English led the Creeks to invite the French to establish a trading post deep within Creek territory. Ft. Toulouse was established at the confluence of the Coosa and Tallapossa rivers in 1717. This fort was an irritation to the English but did not allow the French to gain control of the Creek trade. Fort Toulouse was a source of powder and lead, but the Creeks continued to be frustrated by the paucity of firearms and limited quality and variety of trade items available from the French (Braund 1993:36).

Yuchi Town was established at the end of the Yamasee War, when a group of Yuchi settled at the site of an earlier (Apalachicola) settlement. The earliest reference to the presence of the Yuchis on the Chattahoochee was by Diego Pena, who visited the Lower Creek towns in 1716 (Braley 1992). The naturalist William Bartram visited the area, including Yuchi Town, in 1776 (Bartram 1928). Bartram described the site's setting and architecture, and estimated the population of Yuchi Town at 1000 to 1500 people. Benjamin Hawkins, the first Creek Indian agent, visited Yuchi Town in 1798. He estimated the site population to be about 250 gunmen (adult males), described Yuchi Town's setting, and noted that the

Yuchi retained their traditional customs. By the census of 1832, the Yuchi population had decreased to about 400 individuals (Braley 1992).

The American Revolution marked a severe downturn in the deerskin trade upon which the Creek economy was based. Most of the whites who had once been involved in the trade ceased their operations after the war. The white population of Georgia had increased markedly during the war and was now more focused on the expansion of agriculture than on the Creek trade. A new generation assumed leadership roles in the Creek towns, and many of these individuals were of mixed descent. These men often spoke English or Spanish, some were literate, and had an understanding of white culture. Despite their efforts, continued encroachments into Creek lands were accompanied by major land cessions. In the 1790 Treaty of New York, the U.S. agreed to furnish the Creeks with domestic animals and agricultural implements in an effort to shift their dependence from the nearly defunct trade in deer skins to an agrarian economy (Braund 1993:170-179).

The Indian leader Tecumseh sided with the English in the War of 1812. Tecumseh traveled widely, advocated Indian unity, and incited action on the part of the Red Sticks, the Upper Creeks and the traditional warriors of the Creek nation. The massacre of some 300 whites at Ft. Mims on the Alabama River in 1813 prompted a strong military response by Tennessee militia and their Creek, Chickasaw, Choctaw, and Cherokee allies. The Red Sticks were defeated with heavy losses in several engagements, culminating in the action at Horseshoe Bend on the Tallapoosa River (Waldman 1985:120-121). The Treaty of Fort Jackson in 1814 stripped the Creeks of roughly one-half of their territory (Braund 1993:188). The Creeks and Yuchi maintained control of their lands in Alabama (including Yuchi Town) until the early 1830's. A brief war in 1832 resulted in a final defeat of the remaining Creeks. Soon after, nearly all remaining Creek, Yuchi, Cherokee, and other groups were forcibly removed to Oklahoma (Hamilton 1993:16).

Lawson Field components are most readily distinguished by an abundance of Euro-American (generally English) trade goods. Guns, ammunition, and cloth were the items most preferred by the Creeks, but iron tools and various ornaments were also desired (Braund 1993:121). Access to European textiles resulted in major changes in dress, but the importance of cloth is underrepresented in the archaeological record.

Traditional pottery continued to be manufactured throughout the Lawson Field phase. The pottery assemblage includes both coarse and fine, plain pottery, and the Ocmulgee Fields Incised, Chattahoochee Brushed, and Kasita Red Filmed types are present (Knight and Mistovich 1984; Schnell 1990:69).

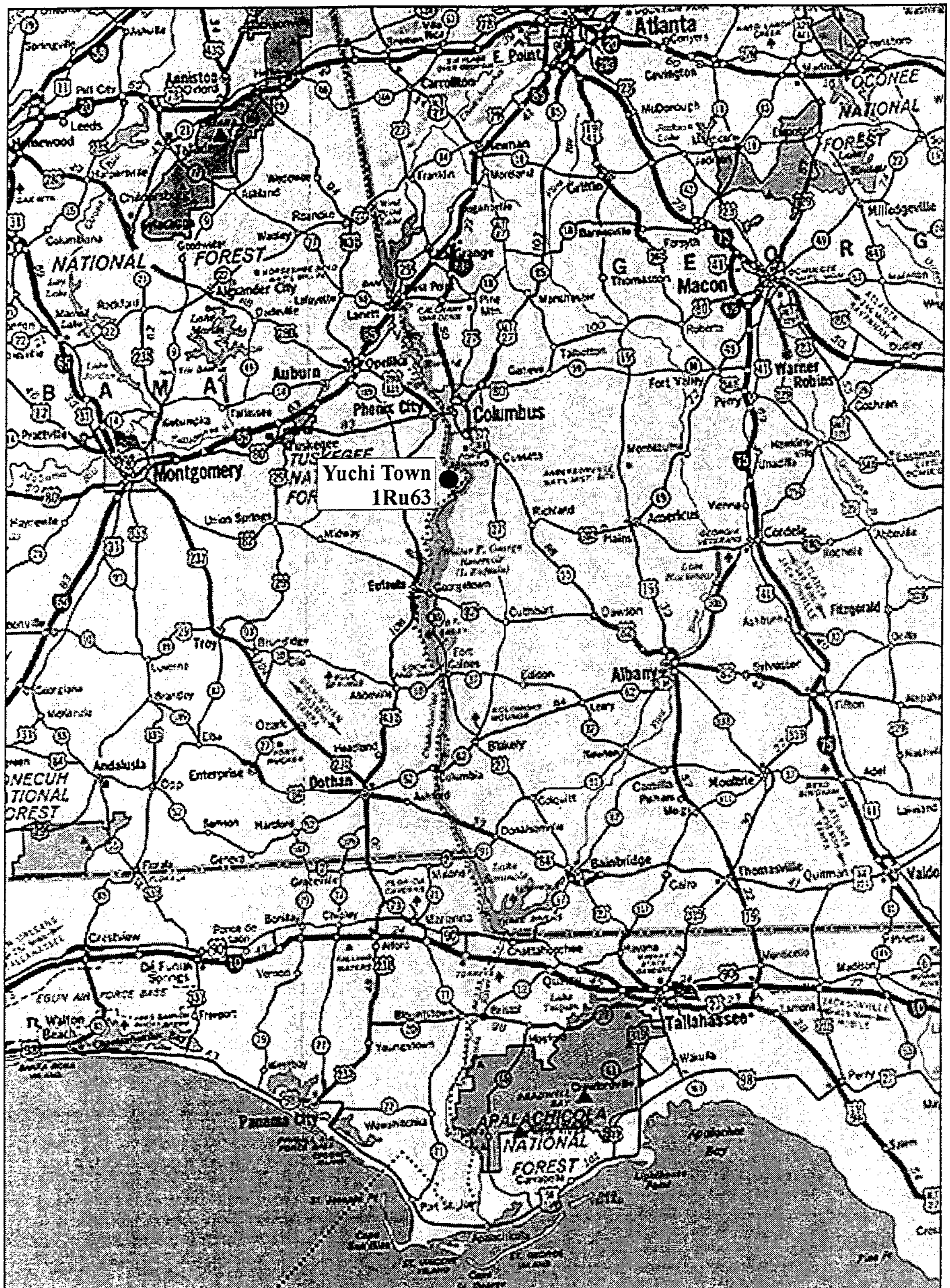


Figure 2-1. Location of the Yuchi Town (1RU63) site at Fort Benning.

Chapter 3
Research Design, Field and Lab Methods

Michael L. Hargrave

The primary objective of the 1994-1995 investigations of the Yuchi Town site was to assess the impact of looting on the archaeological deposits. The excavation strategy employed reflected this focus. Data recovered during the course of the damage assessment also provided an opportunity to address a number of other research questions. This chapter begins with a discussion of the research design and then moves to an account of the field and lab methods.

Damage Assessment

By 1994, more than 800 suspected looter holes were present at the northwestern end of Yuchi Town, (i.e., in the vicinity of the old Smithsonian excavations). These holes were flagged, numbered, and mapped by archaeologist Dean Wood. The suspected looter holes varied greatly in size. The smallest were comparable to the shovel tests excavated by professional archaeologists while the largest were 1.5 to 2 meters in diameter. In some cases, it was difficult to differentiate shallow (possibly backfilled) looter holes from natural disturbances. Wood suggested that the looters had used metal detectors in an effort to identify historic artifacts (Wood 1992:5). Many of the small looter holes may therefore represent shovel tests which were abandoned when it was determined that the metallic item in question was of modern origin.

Looter holes damage archaeological deposits in several ways. Excavation always results in the removal of artifacts from their archaeological context. Because looters do not collect information about provenience, depositional relationships among the objects they displace can never be reconstructed. Even if the looter holes are backfilled with the same soil, all stratigraphic relationships between the artifacts are destroyed. If the looters do not backfill, the artifacts are laterally displaced. Some artifacts (generally the stylistically distinctive and therefore, temporally and/or functionally informative) are removed from the site by the looters. Clearly the most reprehensible aspect of looting at Yuchi Town is the disturbance of human graves.

It requires little more than a glance at a heavily looted site (such as the north end of Yuchi Town) to recognize that extensive damage has been done to the cultural deposits. Excavations designed to salvage remaining contextual information have been conducted at a number of heavily looted sites (e.g., Slack Farm in Kentucky). Rarely, however, have archaeologists made systematic attempts to quantify the extent of the impact of looting.

The Yuchi Town damage assessment was designed to recover information relevant to three main issues: 1) Impacts to human burials. 2) Impacts to other discrete deposits which, if intact, could potentially provide information about past human behavior during relatively brief time intervals or about a relatively narrow range of activities. Examples of discrete deposits include features such as pits, hearths, and architectural remains. 3) Impacts to more extensive, non-feature cultural deposits such as midden strata.

Discrete (Feature) Deposits

The impact of looting on features could be quantified in several ways. If the test units were randomly placed, one could use the excavated area as a basis for estimating the total number of features present and the percentage of the total which have been impacted by looting. Because the 1994-1995 units are not randomly located and represent a very small sample of the total site area, an alternative approach is employed. Here the impact of looting on features is quantified using the percentage of the investigated looter holes which have impacted discrete deposits. No attempt is made to estimate the total number of features present at the site.

Burials

Most archaeologists would agree that looting of human burials is a far more egregious offense than the looting of pits and other archaeological features. Value judgements aside, the impacts of looting of burials can be quantified in a manner similar to that used for features. This involves a determination of the percentage of the investigated looter holes which appear to have disturbed human remains.

Non-feature Deposits

Artifacts recovered from non-feature contexts such as A-horizon, plow zone, and midden strata generally do not offer much potential for inferences about human activities during brief time intervals. Artifacts from such contexts do provide an opportunity to identify certain gross, long-term patterns in the spatial organization of activities. For example, certain public areas (plazas, courtyards, etc.) may have been kept relatively free of domestic debris, whereas areas used for refuse discard may represent concentrations of such materials. To the extent that these patterns persisted for long periods of time, they may be reflected by the nature and density of artifacts recovered from non-feature deposits. It is also possible that non-feature deposits such as midden strata are stratified. If so, controlled excavations may provide data sensitive to changes in the spatial organization of activities. The impact of looting on non-feature deposits is quantified here in terms of the percentage of the investigated looter holes which impacted previously intact (sub-plow zone) midden and other cultural strata.

It is also important to determine whether the looter holes have diminished the potential for identifying a stratigraphic sequence of artifacts within the non-feature deposits. Here it is first necessary to conduct controlled excavations in areas where no looting has occurred, so as to determine if stratified deposits are present. Controlled excavations are then conducted in areas disturbed by looting. The artifacts from undisturbed and disturbed units can then be compared to determine whether a stratigraphic sequence of artifacts identified in the former can also be identified in the disturbed units.

Additional Research Topics

Previous archaeological investigations at Ft. Benning have identified a number of topics for future research (Elliott et al. 1994:278; Espenshade and Roberts 1992:17; Roemer et al. 1994:35, 37). Many of these research topics pertain to time periods which are not represented at the north end of Yuchi Town. The research questions outlined here are those which can be addressed using data from the 1994-1995 USACERL investigations.

Subsistence

The details of protohistoric and early historic period Native American subsistence practices continue to represent major research questions. A recent comparison of archaeobotanical data from three historic period Native American sites in Virginia, North Carolina, and east-central Alabama found many similarities in subsistence practices, reflecting similar adaptations to the deciduous woodlands. The widely shared subsistence strategy includes a focus on maize supplemented by legumes and curcurbits. Hickory nuts and, to a lesser extent, acorns and walnuts played an important role in the diet, and fleshy fruits comprised a dietary supplement. When Old World cultigens were adopted they supplemented rather than replaced traditional plant foods. Variation in this pattern is assumed to relate to local conditions, including demography, resource abundance, and the costs and benefits of subsistence options (Gremillion 1995:13). This understanding of subsistence practices employed by protohistoric and historic groups throughout much of the southeastern U.S. provides a baseline for comparison with the diet of Yuchi Town residents. Identifying and explaining areas where the Yuchi Town diet departs from this regional pattern represents an important line of research. Additional topics for research include differences in the use of plant foods between the protohistoric and historic residents of Yuchi Town, earlier (e.g., Mississippian) groups, and early historic period Anglo occupants of the region.

A related question concerns changes and regional variation in exploitation of faunal resources. From the end of the 17th century throughout much of the 18th century, the trade in deerskins played a major role in the Creek economy. Similarly, deer represented an important element in the diet. As a result of intense and sustained hunting, the deer population (as well as the beaver, bear, bobcat, panther, and fox populations) decreased markedly, beginning in the areas nearest Creek and white settlements. By the end of the 18th century,

commercial hunting was no longer a viable endeavor (Braund 1993:72). Horses were highly valued by the Creek, but cattle and other livestock tended to be viewed as incompatible with the economic focus on deer hunting (Braund 1993:75-76). The limited use of domestic animals (cattle, pigs, chickens) by the Creek presents an opportunity to address issues of acculturation as well as subsistence.

Settlement

Despite the existence of written records pertaining to early historic period, many aspects of Native American settlement practices remain poorly understood. One issue concerns the intra-settlement organization of Yuchi Town. Traditionally, large Creek settlements conformed to a standard layout. Towns were arranged around a public area consisting of several facilities: a square, a chunkey yard, and a rotunda. The square consisted of a large open area. On each side of the square was a three-sided building, with the open side fronting the square. Nearby was the rotunda, a large, circular building used for civic meetings in cold weather. Also at the center of the town was the chunkey yard, a long open field used for the chunkey ball game (Swanton 1946).

Descriptions of Yuchi Town in the late 18th century do not provide much information about the community plan. In 1776, Bartram described Yuchi Town as "...the largest, most compact...Indian town I ever saw..." (Bartram 1928:312), but he did not refer to a square, chunkey yard, or rotunda. In the late 1790's , Hawkins referred to the "town house", presumably a prominent public building, at Yuchi Town (Hawkins 1974). The Yuchi were ethnically distinct from other Creeks and maintained many of their own traditional practices. Thus, an important question is whether Yuchi Town conformed to the standardized layout of Creek towns, and if so, where the square and public buildings were located.

A second question about the Yuchi Town site concerns the range of variation in domestic architecture. Creek towns consisted of multiple household complexes, each comprised of one to four structures situated on a distinct lot (Green 1973). Bartram described the structures at Yuchi Town but did not provide detailed information about individual buildings (Bartram 1928:312). Variation in the size and design of structures can be expected to relate to function, household size, and possibly wealth or social position. A better understanding of architecture at Yuchi Town (and other sites) may provide a context for future studies of Native American social life during the early historic period.

Hawkins noted at the end of the 18th century that the Yuchi "...have lately begun to settle out in villages..." (Hawkins 1974:62). This statement seems to imply a dispersal of the population from large towns such as Yuchi Town into smaller settlements. Many small sites with historic period components have been located at Ft. Benning, and a number of these probably represent settlements comprised of one or several households (e.g., Espenshade and Roberts 1992). To the extent that such sites can eventually be assigned to fairly specific

functional and temporal categories, they can contribute to a better understanding of the dynamics of Creek/Yuchi settlement. Based on a recent study, Espenshade and Roberts (1992:29, 35) suggest that small, early 19th century Creek sites may be manifested by the Lawson Field ceramic assemblage (e.g., no shell tempering, incised or cob-impressed surfaces, an abundance of Chattahoochee Brushed, and some Kasita Red Filmed and Toulouse Plain), a relatively high frequency of pearlware, a low frequency of architectural remains (due to use of notched log cabins with few windows and nails) and an absence of kaolin or stoneware tobacco pipes. USACERL excavations at the north end of Yuchi Town may provide additional data concerning the kinds of artifacts associated with structures of particular time intervals. Excavations at Yuchi Town, particularly near the margins of the site (where features and structures may be more widely scattered) provide an opportunity to document the kinds of artifacts associated with structures of particular time intervals.

Acculturation

Historical records (e.g., Bartram 1928; Hawkins 1974) and previous archaeological investigations (Braley 1994) indicate that Yuchi Town was a large settlement occupied throughout a period (A.D. 1625 to about 1830) of major change in Native American culture. During this period the Anglo-Native American trade in deer skins was established, became a dominant factor in the Native American economy, and then waned as the deer population was nearly obliterated. Throughout the same interval, three European powers (Spain, France, and Great Britain) vied for control of the deer skin trade. As a result of the American Revolution, the United States emerged as a new power and the focus of white interests in the region changed from deer skins to land. These economic and social changes occurred in the context of major demographic upheavals, including the impact of European disease on Native American populations, and intra-regional population movements, (e.g., the shift from the Chattahoochee River valley into the Ocmulgee drainage after 1685, and a return to the Chattahoochee following the Yamasee War (ca. 1717). These conditions acted as catalysts for change in Native American culture. Throughout eastern North America, this period was characterized by the acculturation of Native Americans. Previous investigators have noted that, in some regions, this process resulted in a nearly homogeneous, Pan-Indian material culture (Quimby 1966). In the past decade, however, some researchers have emphasized that Native American groups made choices about which aspects of European culture they would adopt (Branstner 1992:196; Wagner 1996, this volume, Chapter 7). Examples of such choices would include the Creek desire for horses but unwillingness to raise other livestock, despite a steady and severe decline in the success of commercial hunting. Shifts in material culture, including the sequence of adoption of various aspects of European technology and practices, thus represents an important topic for future research at Yuchi Town.

Formation Processes

Elliott et al. (1994:278) note that the loose sandy soils at Ft. Benning pose a challenge to

archaeologists. Previous investigators have found it difficult to interpret cultural strata. The rarity of apparently "pure" buried components suggests that, at many sites, bioturbation has resulted in the mixing of artifacts from different time periods. This issue is clearly relevant to the USACERL investigations at Yuchi Town, given the focus on assessing the impacts of looting on the stratigraphic integrity of cultural deposits.

Field Methods

The methods employed in the 1994-1995 excavations at Yuchi Town were selected based on the data needs of the damage assessment. The basic strategy for the damage assessment was to compare the condition and research potential of cultural deposits in areas that had sustained extensive looting with those of relatively intact areas. This was accomplished by excavating test units in four blocks (designated Block A, B, C, and D). Two of the blocks (A and D) were in areas characterized by relatively numerous and/or large looter holes, whereas the other two (Block B and C) were in relatively undisturbed areas. Block C was also positioned to investigate a concentration of daub believed to be associated with a structure.

Mapping

A 10 m grid had been previously established when Dean Wood mapped the looter holes at the northwestern end of the site, and this grid was used during the USACERL excavations. The grid is not oriented to magnetic north but instead parallels the Chattahoochee River. Grid North is 20 degrees 10 minutes west of magnetic north. Throughout this report, all references to directions are relative to grid north.

When USACERL fieldwork began, most of the 10 m grid points were still marked by pink pin flags. A Sokkia EDM was used to set in the excavation units relative to the extant grid and to record the relative elevations of the original ground surface for each test unit, the base of excavation for each level, and point of definition and base of each feature. A contour map was prepared for the portion of the site between W2550 and W2700, and N1400 to N1600.

Test Units

Units were numbered consecutively (1 through 24) and also designated using the grid coordinates of their northwest corner. Most of the test units measured 2 by 2 m. A number of 2 by 1 m units were excavated, generally in situations where it was necessary to attempt to identify the walls of a structure, or where it was desirable to connect two other units so as to achieve a long profile. All units were excavated by shovel and trowel using a combination of natural and arbitrary levels. In the initial units, the plow zone was excavated in 10 cm levels, but this practice was soon discontinued in order to save time for more productive excavation. Thereafter, the plow zone was removed as a single level. Sub-plow zone levels

were 5 or 10 cm in thickness. All excavated soil (including the plow zone) was screened through .25 in hardware cloth. A 1:20 cm scaled plan map was prepared at the base of each level. These maps showed the outline of features, major bioturbations, and other noteworthy soil stains. Level floors were also documented using black and white print and color slide photographs. Each unit was excavated to culturally sterile soil. Upon completion of the final level, at least two of the walls in each unit were mapped and photographed in profile. For each level, information about soil characteristics, artifacts, features, soil and carbon samples, and excavation strategy was recorded on standardized forms.

Cultural Features

Features (pits, postholes, hearths, etc.) were numbered consecutively and their position was recorded using the grid coordinates of their approximate centerpoint. Features such as pits and hearths were excavated as follows. The feature was first photographed and mapped in plan, generally at a scale of 1:10 cm. One half of the feature was then excavated as a unit. The resulting profile was evaluated, photographed, and mapped. The second one-half of the feature was then excavated. If distinct fill zones were identified in the profile, these were removed as separate proveniences. Carbon suitable for radiocarbon dating was collected whenever it was present in sufficient quantity. At least one 10 liter soil sample was collected for flotation. This sample was generally recovered from the fill zone which appeared to have the greatest amount of carbon. In the case of some small features the entire fill was saved for flotation. All other feature fill was screened through .25 in mesh. Pit volume was estimated by counting the number of 12 liter buckets of fill removed. Information about feature dimensions, fill characteristics, artifact contents, and excavation strategy was recorded on standardized forms.

Postholes

Postholes at the Yuchi Town site were generally large enough to be excavated in the same manner as pit features. In a few cases, posthole sized stains judged to be bioturbations were expeditiously bisected with a trowel so that the profile could be examined. The standard practice was to investigate posthole sized stains in 10 cm levels. Only in the case of a few particularly amorphous stains initially encountered in lower excavation levels was a shovel used to expeditiously achieve a profile. Postholes were numbered as features and documented using the standardized feature forms.

Looter Holes

Looter holes previously identified and mapped by Dean Wood were designated using the number he had assigned. Newly discovered looter holes were numbered as features. The looter holes were first photographed and mapped, and then any loose fill (generally backdirt from nearby looting) was removed. The empty basin was then mapped in plan and cross-

section. Information about the looter holes was recorded using the standardized feature forms.

Human Remains

A bioarchaeologist (Dr. Lynette Norr) directed the investigation of human remains. Bone encountered during the excavation of test units was carefully exposed using small hand tools (e.g., cane picks) until it could be determined whether it represented human remains. Most of the human remains identified at the site were isolated elements which had been displaced from their original context by looting. Isolated bones encountered in excavation units were removed, carefully examined, temporarily placed in bags labeled with appropriate provenience, and then reinterred in the same location as they were found when the test unit was backfilled.

The single in-situ burial encountered was excavated as follows. The bones were first carefully exposed, photographed and mapped. Those few elements which could be most informative about age and sex were examined by the bioarchaeologist and then immediately returned to their proper position. The burial was then carefully covered with soil as the unit was backfilled. This burial was encountered in a lower excavation level and was exposed, documented, and reinterred during a single day.

Backfilling

Upon completion of excavation, all test units excavated by USACERL were thoroughly backfilled.

Lab Methods and Sample Selection

All artifacts recovered by the 1994-1995 excavations were transported to USACERL, Champaign, Illinois, for preliminary processing. Artifacts had been sorted in the field into several broad categories: pottery rims and distinctively decorated sherds, body sherds, chert tools, chert and other non-chert rock, historic items, and faunal remains. Very small items of various categories removed from the screen during the excavation of the plow zone were also bagged separately. Use of .25 in screens and the abundance of pottery at the site resulted in an artifact assemblage much larger than had been anticipated. Very early on in the preliminary processing it became apparent that it would not be possible to process and analyze all of the material. In consultation with Ft. Benning, a sampling strategy was devised. Before washing, all artifact bags were screened in the lab using .5 in mesh. Material which passed through the screen was rebagged and not processed further. Artifacts retained in the .5 in screen were then washed and rebagged in preparation for analysis.

Artifacts recovered from ten 2 by 2 m units (TU 1, 2, 3, 4, 8, 13, 14, 22) and one 1 by

2 m unit (TU 11) were washed. These represent 42 m^2 of excavation, a 55% sample of the total area (76 m^2) excavated. The washed sample includes two 2 by 2 m units from each block; (Block A-TU 1 and 2, Block B-TU 3 and 4, Block C-TU 8 and 22, Block D-TU 13 and 14).

Ceramics

Native American ceramics dominate the artifact assemblage. Ceramics from one unit in each block (Block A-TU 1, Block B-TU 4, Block C-TU 8, and Block D-TU 13) were sorted into extant types and varieties described by Mistovich and Knight (1986). The four unit ceramic sample includes sherds from 16 m^2 of excavation, representing a 21% sample of the total number of sherds larger than .5 in. The ceramics were analyzed by Ms. Carrie Small under the direction of Dr. Michael Hargrave (USACERL). A detailed discussion of the sorting methods used is presented in Chapter 5.

Lithics

A sample of the chert and non-chert lithics was analyzed by Dr. Charles McGimsey III (University of Southwestern Louisiana). The analyzed lithic samples included all materials from the sample described above (TU 1, 2, 3, 4, 8, 13, 14, 22), as well as the chipped stone tools from all remaining units. Methods used in the lithic analysis are presented in Chapter 6.

Historic

For all practical purposes, 100% of the historic artifacts recovered by the 1994-1995 excavations were analyzed by Mr. Mark Wagner (Southern Illinois University, Carbondale). During fieldwork, an effort was made to bag all historic items separately. It can be assumed that some of the smallest items were overlooked in this process and may remain unidentified in the bags of unwashed artifacts. These certainly represent a negligible portion of the total. Methods used in the analysis of the historic materials are summarized in Chapter 7.

Plant Remains

Soil samples from 108 proveniences were floated at the Public Service Archaeology Program lab, University of Illinois. These samples were divided into high (n=64), medium (n=17), and low (n=27) priority groups, based on available information relevant to the potential of each sample to provide useful, reliable information. Thirty-five (55%) of the high priority samples were analyzed by Dr. Lee Newsom with the assistance of Ms. Laura Ruggiero (Southern Illinois University, Carbondale). Methods employed in the analysis are discussed in Chapter 8.

Fauna

Virtually 100% of the faunal remains recovered by the USACERL investigations were analyzed by Dr. Emanuel Breitburg (Tennessee Department of Environment and Conservation). As with the historic items, faunal materials were bagged separately during excavation. It is certain that some of the smallest specimens found there way into the general artifact bags, but these can be assumed to represent a very minor percent of the total. Methods employed in Breitburg's analysis are outlined in Chapter 9.

Human Remains

No human remains were removed from the Yuchi Town site. Human bone was analyzed in the field by Dr. Lynette Norr (University of Florida). The methods used in her analysis are described in Chapter 10.

Radiocarbon Dating

Five carbon samples were submitted for radiocarbon dating to Dr. Chao-Li Jack Liu (Illinois State Geological Survey, University of Illinois). Results of the analysis are discussed in Chapter 4.

Chapter 4
Results of Fieldwork

Michael L. Hargrave and Charles R. McGimsey

The 24 test units excavated in 1994 and 1995 exposed a total area of 76 m^2 (Figure 4-1, Table 4-1). The units were distributed in four blocks designated Block A, B, C, and D (Figures 4-2 through 4-5). The four block strategy was designed to provide information on the nature of the cultural deposits in several areas at the northwestern end of the site, and to allow comparison of the depositional integrity and research potential of deposits in heavily looted areas with those in relatively undisturbed loci.

This chapter presents the results of the fieldwork as well as certain aspects of the subsequent analysis; (detailed discussions of the ceramic, lithic, historic, archaeobotanical, and faunal remains are presented in Chapters 5 through 9). The following discussion is presented in three sections: stratigraphy, features, and artifact distributions. Each section is subdivided into discussions of the study area (i.e., the northwestern end of the site) as a whole and the individual blocks.

Stratigraphy

Sandy loams occur throughout the northwestern end of the Yuchi Town site. Excavated profiles and deeper coring (using an Oakfield probe) indicate a general fining-upward sequence. The uppermost sediments are fine to medium sandy loams with occasional pebbles. Soils are weakly developed, and this is, in part, a consequence of the sandy texture. A fine weak to very weak subangular blocky structure is found in the unit profiles, extending only 10 to 20 cm below the plow zone (i.e., 35 to 45 cm below surface). This suggests a relatively young landform, less (and possibly, much less) than 1000 years old. This depositional history may explain the near absence of artifacts that are clearly more than 300 years old.

A similar stratigraphic sequence is found in all four excavation blocks. A black fine sandy loam humus zone has developed atop the historic plow zone. The plow zone is 15 to 25 cm thick, uniformly dark brown, with an abrupt lower boundary; (detailed descriptions of strata are presented in Figures 4-6 through 4-13). Artifacts are abundant and, as a result of plowing, tend to be small. Below the base of the plow zone is a culturally rich, organically stained stratum. In the field, this stratum was initially described as a remnant A horizon and/or midden. The soil structure within this stratum is, however, more like that of a B horizon. In either case, it is reasonable to refer to the stratum as a midden, in that it is thought to have developed in, or has at least been augmented by, cultural material. Throughout the midden stratum, artifacts are abundant and larger than those in the plow zone, and flecks of carbon, oxidized soil, and bone occur in low to moderate density.

Below the midden there is, in many areas, a stratum representing a transition between the A and B horizons. The upper portions of this transition zone tend to be dark brown whereas the lower portions are brown to dark yellowish brown. Lighter colored mottles are common but carbon is very sparse throughout the stratum. Overall, cultural materials are sparse, decreasing in abundance from top to bottom. Artifacts are present in the transition stratum as a result of downward migration rather than the existence of past living surfaces. Below the transitional stratum is the B horizon; (in many locations excavation ceased before this stratum was reached). The B horizon is a dark yellowish brown sandy loam with moderate silt content and a uniform color. The uppermost 8 to 12 cm of the B horizon appear to be unstructured but lower portions display a moderate sub-angular blocky structure.

Block A Stratigraphy

The stratigraphy documented in Block A conforms closely to the summary presented above. Representative profiles for Block A are illustrated and described in more detail in Figures 4-6 and 4-7.

Block B Stratigraphy

Strata encountered in Block B also conform to the general description (Figures 4-8 and 4-9). Although the plow zone does not generally extend more than 25 cm below present ground surface, there is evidence for at least some episodes of slightly deeper plowing. Occasional plow scars are present at 25 to 30 cm below surface in Test Units 4, 6, and 17. The uppermost 5 cm or so of the midden is darker and richer than any other zone but some plowing has occurred to that level. The transition stratum underlying the midden is not dark in absolute terms, but it was found that previously unidentified stains (including a few which proved to be postholes) first appeared at a depth of approximately 50 cm below surface.

Block C Stratigraphy

Some of the peripheral units (TU 15, 16, and 22) indicate that the stratigraphy in Block C is much like that in Blocks A and B. Block C is of special interest, however, in that several of its constituent units (TU 8, 11, 12, 18) are located entirely or almost entirely within the horizontal limits of a semisubterranean structure (Structure 1). The stratigraphic sequence in these units thus includes some strata which are not present elsewhere (Figures 4-10 and 4-11). This is not meant to imply that Structure 1 is an anomaly at the site. Two other structures were identified in Block B and it is certain that many other architectural remains are present in unexcavated areas.

The humus and plow zone strata in Block C differ little from the previous (Block A and B) descriptions. In Block C, a major stratum comprised of the filled-in house basin occurs immediately below the base of the plow zone. In general, the basin fill is a very dark grayish-

brown fine sandy loam with a very weak subangular blocky structure. In some areas (particularly in TU 8), the basin fill consists largely of chunks of daub ranging in size up to 10 cm. This material derives from the daub wall cladding of the structure. The daub consists of clay fired very hard, occasionally bearing distinct impressions of twigs and sticks. In some areas, the lower limits of the basin fill stratum are marked by a thin smear of carbon. Carbonized sticks and logs ranging in diameter up to several centimeters occur in several areas within the basin fill stratum. These specimens represent pieces of the structure roof and wall materials.

Immediately below the basin fill stratum is a transitional zone. This is characterized by a weak and very fine subangular blocky structure at the top, with little structure at the bottom. The lower boundary is somewhat arbitrary, based on a decrease in the abundance of mottles from above. Below the transition stratum is the top of the B-horizon. This stratum consists of strong brown to dark yellowish brown fine sand, with a uniform color and texture and a granular structure.

Block D Stratigraphy

Block D was the last area to be excavated yet posed the greatest difficulty in identifying the strata (Figures 4-12 and 4-13). This difficulty was caused by presence of numerous looter holes (most of which had been back-filled), thin deposits of looter hole backdirt, and other (presumably natural) disturbances.

In Block D the humus zone has developed in the historic plow zone and old looter hole backdirt. This explains why a number of the older, backfilled looter holes were not visible prior to excavation. The plow zone in Block D is thinner than elsewhere, generally 12 to 15 cm thick, and rarely exceeding 20 cm in thickness. The midden stratum was identified in all but one (TU 14) of the units. The midden is, in most places, only about 8 cm thick, reaching a maximum thickness of about 15 cm. Artifact density in the midden is lower in Block D than in the other excavated blocks. Below the midden is a stratum representing the A-horizon to B-horizon transition. This stratum is a dark yellowish brown with irregular patches of brown to dark brown and an abrupt lower boundary. Artifacts and carbon are sparse and attributed to downward migration. In a few areas in Block D excavation reached the top of the B-horizon. This is comprised of a yellowish-red clayey sand.

In summary, Block D exhibits the same sequence of strata as do the other blocks, but the strata in D are more compressed than elsewhere. Block D may be more representative of the natural stratigraphy, meaning that there has been less extensive midden formation. This is a little difficult to reconcile with the fact that the number of features identified in Block D suggests relatively intense occupation of the area. On the other hand, Block D is located within a area characterized by relatively few open looter holes, and the intensity of looting may provide a crude indication of the richness of the archaeological deposits.

Features

A total of 91 feature numbers were assigned during the 1994-1995 excavations (Table 4-2). Seven of the features are Looter Holes (Table 4-3). Looter holes mapped by Wood in 1993 had been previously numbered and those LH numbers are used here. Feature numbers were assigned to newly discovered looter holes. Of the remaining features, one was decataloged when it was found that two numbers had been assigned to a single feature. Five features were found to be natural disturbances.

Seventy-eight cultural features were documented in the four excavation blocks. More than one-half of these (n=44, 56.4%) represent the remains of posts. Most (n=24) of these are postholes and possible postholes (n=15). The latter category reflects the difficulty of differentiating some of the smaller and/or shallower posthole-sized stains from root casts and other natural disturbances. The postholes have mean lengths and widths of 17.8 and 16.5 cm, respectively, and a mean depth of 22.1 cm. The possible postholes tend to be a little smaller, with mean length, width, and depth values of 14.6 cm, 13.9 cm, and 15.5 cm, respectively. Posthole lengths range from 8 to 30 cm and widths range from 6 to 26 cm. Depths range from 7 to 46 cm.

Interesting variants of the posthole category include carbonized posts (n=3) and clay filled postholes (n=2). The former category is distinctive simply by the presence of a preserved, carbonized post. These postholes tend to be relatively small, with length and width values ranging from 6 to 15 cm and 6 to 12 cm, respectively. There is a wide range of variation in depth (16 to 56 cm). The carbonized posts offer an excellent potential to secure reliable radiocarbon dates for particular structures and they are discussed in more detail below. The clay filled postholes are distinguished by a concentration of unfired clay within their fill. In terms of length, width, and depth dimensions, the two clay filled postholes fall within the range exhibited by the other postholes.

Pits make up the second largest feature category. Excavations identified 17 pits and 4 'corn cob' pits. The Yuchi Town pits are not large by regional standards. Lengths range from 25 to 155 cm with a mean of 79.4 cm, and widths range from 22 to 130 cm with a mean of 55.6 cm. Mean depth is 16.5 cm with a range from 3 to 32 cm. Nearly one-half (6, 46.2%) of the pits have oval/rectangular plans. The remainder are oval (4, 30.8%) or irregular (3, 23.1%) in plan. Nearly two-thirds (9, 64.3%) of the pits have insloping profile shapes. The others are vertical/insloping (3, 21.4%), insloping/belled, or lens-shaped (1, 7.1% each). Most (11, 84.6%) of the pits have basin shaped floors; two (15.4%) have flat bottoms.

Four corn cob pits were identified. These tend to be relatively small features, with length, width, and depth means of 47 cm, 36.7 cm, and 16 cm, respectively. Most (75%) have oval plans and basin shaped bottoms (75%). Profile shapes are variable, with one example each of vertical, insloping, insloping/belled, and lens-like. Newsom and Ruggiero report that, as a

group, the corn cob pits represent the greatest concentrations of plant remains, including high densities of wood as well as corn (see Chapter 8).

Other feature types identified during the 1994-1995 excavations include two wall trenches, two faunal concentrations, and single examples of a hearth, a clay lens, a burial pit, and a daub concentration. Examples of the various feature types are discussed below.

Table 4-4 shows the density (number per square meter excavated) of each feature type. If the 5 noncultural disturbances are deleted, the density is 1 feature per square meter. The density for all posthole categories is .58, whereas the pit density (n=21) is .28.

Block A Features

Only five cultural features were identified in Block A, for a total density of .31 (Figure 4-2, Table 4-4). These include one noncultural disturbance, one posthole, and 4 possible postholes. The possible postholes (all located in TU 1) are among the least convincing of 15 examples of that category. The paucity of features in Block A is surprising, in that the test units there produced an artifact density comparable to Blocks B and C. However, Block A is located near the western limits of the looter hole distribution and the site. Despite the paucity of features in the Block A units, it is likely that features are present in that general area.

Block B Features

A total of 29 features was identified in the six test units (20 m^2) comprising Block B (Figure 4-3, Table 4-2). The overall feature density is 1.45, the highest of the four blocks. Postholes (n=13) occur in Block B at a density of .65 per m^2, whereas pits (n=8) have a density of .4. Among the interesting aspects of Block B is the evidence for at least two structures. Structure 2 is manifested by a wall trench (F 22). This feature was identified in TU 6 during the excavation of Level 4 (ca. 30-40 cm bs). Subsequent inspection of the south wall profile indicated that the wall trench originated about 25 cm below surface, within the upper (culturally richest) portion of the midden. Few artifacts and virtually no carbon flecks were present in the wall trench fill. It was found, however, that a medium sized pit (F 23) was present on top of the wall trench. This pit produced a perforated, triangular shaped piece of brass. Carbon recovered from the pit yielded an uncorrected radiocarbon date of 370 ± 70 years B.P. (ISGS-3078) (Table 4-5). This assay does not date the wall trench, but provides an idea of its latest possible date.

The F 22 wall trench is oriented (grid) northeast-southwest (Figure 4-3). Test Unit 10, a 2 by 1 m unit, was excavated in hopes of encountered the northeastern wall of Structure 2. Unit 10 encountered the northeast end of F 22 but did not produce evidence of an intersecting wall. Test Unit 9 produced evidence of possible wall trench (F 31) which may represent the

southwestern wall of Structure 2. Feature 31 is a section of a long shallow feature protruding into TU 9 from the west wall. It was initially identified during the excavation of Level 3 (ca. 30 to 40 cm bs). Unfortunately, the portion excavated was only about 10 cm deep and the profile of the trench could not be discerned in the unit's west wall. The feature appeared to terminate about 70 cm east of the wall. However, it is possible that the feature originally extended farther but was truncated by F 30, a large, shallow pit. If one assumes that F 31 does represent the southwest wall of Structure 2, it is possible to extrapolate its course beyond the western edge of TU 9, to the point where it would intersect F 22 (the northwest wall of the structure). This extrapolation allows one to estimate the maximum length of F 22 at 5.85 m. If the apparent eastern end of F 31 does represent true endpoint, then the maximum length of the southwest wall of Structure 1 is approximately 4.75 m. (It is unclear why there is no evidence of the adjoining southeast wall within TU 9). If Structure 2 represents a symmetrical, rectangular structure, its floor area would be about 27.8 m^2. Although a number of postholes were identified within the speculated limits of Structure 2 (as defined by Features 22 and 31), there is no basis for assuming that they are associated with the structure. No evidence of a possible floor for Structure 2 was identified in any of the Block B test units.

Evidence for another structure (Structure 3) was identified in Test Unit 17. This unit was initially positioned in hopes of encountering a wall trench representing the northeast wall of Structure 2. No evidence of such a feature was found. Unit 17 did, however, produce a large pit (F 58), three postholes (F 59, 60, and 76), a corn cob pit (F 63), a clay lens (F 70), and a burial pit (F 81) containing a human burial (see Chapter 10). Upon completion of the unit, a close inspection of the wall profiles disclosed a stratum interpreted as the floor and basin fill of a shallow, semisubterranean structure similar to one that had been extensively investigated in Block C (Structure 1). This stratum consisted of a dark brown (7.5YR3/2) fine sandy loam with abundant flecks of carbon, oxidized soil, and very small pieces of daub or fired clay. In places, the base of this stratum was defined by in situ burning. This stratum was visible across the entire south wall profile, and extended part way along the western and eastern profiles. In the west profile, a deposit of carbonized corn cobs lay at the base of the stratum, defining the Structure 3 floor. A radiocarbon assay on this material yielded an uncorrected date of 290 $\pm$ 70 years B.P. (ISGS-3077) (Table 4-5). This is interpreted as a good estimate for the date of Structure 3. Posthole F 76 was located at the north end of the stratum in the west wall, and is believed to be associated with the structure.

Available evidence (from the TU 17 profiles) indicates that the floor of Structure 3 is located 25 to 30 cm below present ground surface. Much of the basin fill has been destroyed by plowing, with a maximum of 8 cm remaining. The southwest corner of the basin was observed during the excavation of TU 3 but was not identified at the time as a structure. A grayish stain interpreted as a root disturbance was noted in the northeast corner of TU 3 at the base of Level 2 (20 cm bs). A larger stain with scattered carbon flecks was again noted in that corner at the base of Level 3 (30 cm bs) but was not thought to be a feature. At 40 cm

bs the stain was no longer present. A small, circular carbon concentration (F 8) was present within the limits of the stain seen at 30 cm bs. This feature is now believed to be associated with (and located in the southwest corner of) Structure 3. Based on its diameter and depth (17 cm), Feature 8 could represent a posthole.

Given no evidence of a wall trench paralleling the northwestern edge of the basin, it is assumed that Structure 3 represents a single post, shallow semisubterranean structure much like Structure 1 in Block C. It is likely that the thin stratum corresponding to the Structure 3 basin would not have been identified in the TU 17 profiles had it not been for previous work in Block C. There is no basis for estimating the horizontal dimensions of the structure. There is, however, strong evidence indicating a northeast-southwest (or northwest-southeast) orientation.

Block C Features

Twenty-eight features were identified within the nine Block C test units (Figure 4-4, Table 4-4). The overall feature density in Block C is 1.27, slightly lower than Block B. The 19 postholes in Block C have a combined density of .86. Pits (n=7) occur at a density of .32 per m^2.

Block C was excavated in order to investigate the impacts of looting on a suspected structure (Structure 1). Initial evidence for the structure was the presence of large chunks of daub in the backdirt of an open looter hole (LH 158). An Oakfield soil probe and a tile probe were used to identify the limits of an in situ concentration of daub. Test Unit 8 was then positioned so as to investigate this deposit and to intersect two looter holes (LH 157, LH 158). Levels 1 and 2 removed the modern plowzone and exposed the top of the daub deposit in the east one-half of the unit. Level 3 removed intact midden from on top of and around the daub. This midden indicates a significant occupation of the Block C area after Structure 1 was destroyed.

Level 4 removed the daub layer. The daub concentration (F 88) was found to be very compact, comprised of chunks ranging in size from .25 to 15 cm. Below the compact daub was a thin (1 to 3 cm) layer of what appeared to be decomposed (softened) daub, and below this was the structure floor. The floor was fairly easily defined, in that its color and harder texture was distinct from the decomposed daub. Few artifacts were observed within the daub layer or on the structure floor. In the western one-third of TU 8 the daub deposit was discontinuous. Numerous pieces of carbonized wood measuring up to 30 cm in length were present, most lying within several centimeters of the structure floor. One of these specimens was submitted for radiocarbon dating and yielded an uncorrected assay of 320 $\pm$ 70 years B.P. (ISGS-3080) (Table 4-5). This is interpreted as a reliable indication of the age of Structure 1.

A well defined prepared hearth (F 21) was identified in the northeastern portion of TU 8. The hearth was identified at the level of the structure floor, below the daub concentration. The hearth was a large (110 by 107 cm), circular, shallow basin. In profile, three distinct strata suggested a similar number of episodes or intervals of use. Two of the hearth strata were comprised of a reddish brown (5YR4/4) silt loam which was distinct from other sediments seen at the site. It is speculated that the hearth was prepared using material imported from off-site.

All of the other units excavated in Block C were positioned so as to identify the limits of the structure and to recover additional information about its construction. The southeast corner of Structure 1 was identified in TU 12. The assumption that the structure has rounded corners (see Figure 4-4) is suggested by the fact that the limits of the basin stratum extend a little farther to the east in the north wall of TU 12 than in the south wall. The identification of the northern limits of the basin at the extreme north end of TU 18 is fairly reliable, but not absolutely certain. In contrast, the western edge of the basin is very confidently located in TU 16. The western extent of the basin stratum is visible in that unit's north profile. In the south profile, the position of the structure's west wall is unquestionably marked by F 52, an in situ carbonized post. A preserved section of the actual post was 20 cm long and 9 cm in diameter. A well defined posthole extended another 36 cm below this. The carbonized post yielded an uncorrected radiocarbon assay of 310 $\pm$ 70 years B.P. (ISGS-3076), within 10 years of the date derived from a carbonized log on the structure floor (Table 4-5).

Test Unit 21 was excavated in hopes of intersecting the southeast edge of the Structure 1 basin. No evidence of the basin was found, however, suggesting that it was located just to the north of that unit.

On balance, available data indicate that Structure 1 is nearly square, measuring approximately 6.4 m northwest-southeast by 6 m northeast-southwest. Floor area is estimated to be about 38.4 m^2. The floor of the structure is located 32 to 40 cm below present ground surface. Modern plowing has truncated the basin, leaving only 15 to 20 cm of intact fill. The absence of wall trenches and presence of well defined postholes and at least one in situ carbonized post indicates that the walls were constructed of single posts, with wattle and daub wall cladding. Two pairs of neighboring postholes are believed to be associated with the structure. Features 52 and 85 are separated by a distance of 58 cm, whereas F 54 and F 86 are spaced about 70 cm apart.

Several other postholes were identified in Block C test units within the limits of Structure 1. It is not known which of these (if any) are associated with that structure. Feature 80 is perhaps the most likely to be associated. In the TU 11 east wall profile (Figure 4-10), it is apparent that F 80 extends up to the bottom of the house basin. If F 80 is associated with Structure 1, it presumably represented an internal support post. It remains possible, however, that F 80 predates Structure 1 and was truncated when the basin was constructed.

It is also uncertain which, if any, of the seven pits identified in Block C are associated with Structure 1. Six of the pits (F 49, 53, 62, 65, 79, and 87) are located entirely outside the limits of the structure. Feature 27 was recorded in the south and east profiles of TU 8 but was not excavated as a feature. It remains uncertain whether or not this pit is associated with the structure. The pit does not appear to have been open at the time the structure burned, as the pit fill contains no daub.

Block D Features

Five test units exposing a total area of 18 m^2 were excavated in Block D (Figure 4-5). A total of 15 cultural features was identified, yielding a density of .83 feature per square meter (Table 4-4). Nearly one-half (n=7, 46.7%) of the Block D features are postholes. Postholes occur in the block at a density of .39 per m^2. All but one of these features are categorized as possible postholes and there is no basis for determining which (if any) relate to the same structure.

Six features are categorized as pits; (5 pits and 1 corn cob pit). Several of these (F 41, F 71) are rather oddly shaped, and their identity as genuine cultural features is a little less certain than is the case for most of the pits excavated at Yuchi Town. In fact, this degree of uncertainty about the origin of the features is one of the distinctive aspects of Block D. In addition to the 15 cultural features, three other stains were assigned feature numbers but later determined to be natural disturbances. It is unclear why so many such disturbances occur in this part of the site. One factor which clearly contributes to the difficulty of interpreting features in Block D is the presence of older looter holes. Four of these (recorded as Features 36, 37, 38, and 39, but not included in the totals reported here) had been excavated and backfilled some years ago, as evidenced by the presence of a well developed humus. Low deposits of looter hole backdirt are also present under the humus in several areas of Block D, and this complicates interpretation of the soil profiles. Despite the uncertainties about the cultural origins of some features, a number of the features identified in Block D (e.g., F 40, F 57) are unquestionably genuine. These features indicate that Block D represents a portion of the site characterized by a significant intensity of occupation, at least during some time intervals.

Feature 46, a carbon concentration in TU 14, provides the only absolute date for the occupation of Block D. A carbon sample from that feature yielded an uncorrected radiocarbon assay of 210 $\pm$ 70 years B.P. (ISGS-3079) (Table 4-5). The F 46 sample is not directly associated with any diagnostic artifacts. This assay does, however, fall within the time interval indicated by most of the historic artifacts (see Chapter 7).

Looter Holes

A total of 17 looter holes was identified within (or partially within) the 76 m^2 excavated

in 1994-1995. The density of looter holes within the area investigated is thus 1 hole per 4.5 m^2. Table 4-3 shows the location, size, shape, and impacts on cultural deposits of each looter hole.

Block A Looter Holes

Block A was intentionally located within an area of relatively intense looting. Six looter holes were present within the four units (16 m^2) comprising Block A (Plates 4-8, 4-9, and 4-10, Figures 4-6 and 4-7), yielding a density of 1 hole per 2.7 m^2. All but one (F 16) of the Block A looter holes had been previously identified and numbered by Wood. Feature 16 was discernable on the surface as a very subtle depression. Removal of the fill using a trowel revealed the depression to be a relatively small (66 by 60 cm) looter hole. Most of the hole was less than 20 cm deep but a smaller portion (possibly a looter's shovel test) extended to about 30 cm below surface.

The five previously identified looter holes in Block A ranged in size from 77 to 173 cm in length, from 70 to 135 cm in width, and from 20 to 35 cm in depth. The looters had made little or no effort to backfill these holes. Looter hole 708 did not appear to extend below the plow zone, but all of the others extended into the midden stratum. Features 5 and 6, categorized as possible postholes, were identified below LH 713 (Plate 4-8) and it is likely that the hole truncated the uppermost portions of those features.

Block B Looter Holes

Block B was intentionally located in an area characterized by very little looting. Only one looter hole was identified within the 20 m^2 of Block B. This hole (recorded as Feature 1) had been fully backfilled by the looters and was not discerned when TU 3 was begun. The outline of F 1 was apparent, however, as soon as the humus stratum was removed. The portion of F 1 located within TU 3 was 115 cm long and approximately 52 cm deep. This looter hole was square or rectangular in plan, and was so symmetrical that it looked like a backfilled test unit. The fill was a patchy mixture of soils of different colors and textures but was surprisingly compact (Plate 4-11).

Several fragments of human bone were recovered from the F 1 fill. Feature 3, a Native American pit, was identified at the bottom of the F 1 looter hole. Additional fragments of human bone in the F 3 fill may indicate that it served as a burial pit. It is also possible, however, that F 3 was intended to serve some other (e.g., storage) function, and that a previously interred burial was inadvertently disturbed when F 3 was excavated. The size and symmetrical shape of looter hole F 1 indicate a considerable investment of effort, and this may suggest that it was used to expose and loot an entire burial.

Block C Looter Holes

Block C was positioned so as to investigate a suspected Native American structure. The first indication of this structure was the occurrence of several large chunks of daub in the backdirt associated with LH 158. Three looter holes were identified within the 20 m^2 excavated in Block C (Table 4-3). The density of looter holes in this block is thus 1 hole per 6.7 m^2.

Two of the Block C looter holes, LH 157 and 158, were identified and mapped by Wood. Looter hole 158 was relatively large, with the portion investigated in TU 8 measuring 115 cm in length and 50 cm in depth (Plate 4-12). Looter hole 157 was quite a bit smaller, with the investigated portions measuring about 52 cm long and 48 cm deep. Both of these holes had been partially backfilled by the looters. The third looter hole, recorded as F 51, measured 46 by 41 cm in plan, with a depth approximately 29 cm. Feature 51 had been thoroughly backfilled by the looters and was not discerned until the humus was removed (Plate 4-13).

All three of the Block C looter holes extended below the plowzone into intact deposits representing the Structure 1 basin. Fragments of human remains were recovered from LH 157 and 158, and it is possible that these looter holes were excavated to expose burials. If so, Looter holes 157 and 158 were particularly destructive, in that they not only desecrated human remains but also obliterated important archaeological information about the relationships of the possible burials to Structure 1. Looter hole 157 impacted intact archaeological deposits in the immediate vicinity of F 21, a prepared hearth associated with the structure. This looter hole was also located within a concentration of carbonized wood representing roof and wall fall, and may well have destroyed specimens suitable for radiocarbon dating and identification of taxa (Figure 4-10).

Block D Looter Holes

Block D was located in a portion of the site distinguished by several particularly large looter holes. A total of seven looter holes were identified in the Block D units. Three of these had previously been identified and mapped, but four others were located only after excavation was underway. The density of looter holes in Block D is 1 hole per 2.6 m^2.

Looter hole 504 appears to be one of the largest such excavations at the northwest end of the site. It measures 250 by 224 cm in plan, with a depth of 50 cm. Test Unit 13 was located so as to intersect the northwest corner of LH 504. Unfortunately, the Block D test units provide few clues as to the looter's targets. Block D included a number of Native American pits but none of these were particularly rich in artifact contents. Looter hole 504 impacted the plow zone, midden, and transitional strata within a area exceeding 4 square meters. This hole was large enough to completely destroy all evidence of one or more Native American pits or burials.

Looter hole 507 was intersected by Test Unit 14. This looter hole was smaller than LH 504 but was nevertheless relatively large. The portion of LH 507 located within Unit 14 measured 90 by 70 cm in plan and was 36 cm deep. This looter hole impacted plow zone and transitional stratum deposits; no intact midden was identified in TU 14.

Features 36, 37, 38, and 39 are interpreted as looter holes that had been thoroughly backfilled. These were relatively small looter holes, ranging from 30 to 78 cm in width (lengths were indeterminate), and from 36 to 44 cm in depth. These holes were not detected while the plow zone was being removed, suggesting that they may have been excavated prior to the most recent plowing, (i.e., several decades ago). As noted already, no intact midden was identified in TU 14, but all four of these looter holes impacted transitional stratum deposits.

Artifact Density

Data on artifact density (Table 4-6) provide an opportunity to address several important questions about the Yuchi Town site. One issue concerns the potential for relative dating based on stratigraphy. Elliott et al. (1994:278) have noted that the loose sandy soils characteristic of Ft. Benning (and Yuchi Town) may be particularly susceptible to depositional mixing through the action of gravity, erosion, plants, and animals; (the impact of looting on stratigraphy is addressed in Chapter 5). The focus here is on evidence for a general downward movement and mixing of artifacts. Evidence for a downward migration would include a low density of artifacts in the upper strata relative to the lower strata. Unfortunately, this pattern would also characterize an aggrading landscape. If flooding has resulted in a significant deposition of sediments subsequent to the time of Native American occupation, the new sediments should contain few artifacts. Modern plowing will have brought some artifacts up from lower (cultural) deposits. But the overall result of post-occupational deposition of sediments should be a decreased density of artifacts in the uppermost excavation levels.

Horizontal variation in artifact density provides an opportunity to search for evidence of gross patterns in intra-settlement organization and intensity of occupation. For example, relatively low artifact densities might be expected near the edge of a site. But very low densities elsewhere might suggest the presence of public areas where debris from domestic activities was rarely discarded. Relative to the size of the site as a whole, the four USACERL excavation blocks provide a very limited opportunity to examine horizontal variation in artifact density. Data on artifact density can, however, contribute to a better understanding of the cultural deposits in the four blocks, and within the northwestern end of the site.

Artifact count and weight densities were calculated for each level in the four sample units (TU 1 in Block A, TU 3 in Block B, TU 8 in Block C, and TU 13 in Block D) (Table 4-6). Level volumes were calculated by multiplying the mean thickness of the level by the area excavated. A 10 cm level in a 2 by 2 m unit would have a volume of .4 m^3. Features and

looter holes were deleted from the calculations. The difficulty of estimating the volume of looter holes and features requires one to view the density values as approximations. For all levels, count and weight densities are expressed per cubic meter. Note that the densities of chert and nonchert rock were calculated by combining the plow zone levels. Although count and weight densities were both calculated, weights are viewed here as more useful. Unlike counts, the total weight of artifacts in a level are not influenced by fragmentation. Recall that all densities pertain only to materials large enough to be retained in a .5 in screen. Inclusion of the smaller than .5 in fraction would obviously increase count much more dramatically than weight.

Ceramics are, by far, the most abundant material in all four blocks. Count densities in individual levels range from 0 to 3,298.92, and weight densities (grams per cubic meter) range up to 10,590.8 g. Nonchert rock is the second most abundant material. Count densities range up to 385.8 whereas the greatest weight density observed was 5,763.9 g. Chert is not abundant at the site. Count densities range up to 48.96. The greatest observed weight density for chert is 159.12 g.

Block A Artifact Density

Test Unit 1 in Block A has the greatest weight density of nonchert rock (5,763.9 g) (Table 4-6). This density pertains to the L4 midden. In this unit, the weight density of nonchert rock in the midden is more than twice that in the plowzone (2,274.99 g). The weight density falls off sharply in the L5 transitional stratum, and relatively little rock (140.66 g per m^3) is present in the L6 B-horizon.

Unit 1 has the second highest weight density of ceramics, with 9,441.96 g in the L4 midden and a very similar density (9,315.37 g) in the L3 midden. Ceramic weight densities in the midden are substantially greater than in the plow zone levels (L1=4,235.22 g, L2=5,957.58 g). Surprisingly, a considerable amount of pottery is present in the L5 transition (3,027.03 g). This falls off to only 273.66 g in the L6 B-horizon, and no pottery was recovered in L7.

In contrast to the patterns for ceramics and nonchert rock in TU 1, chert is more than twice as abundant in the plow zone (68.03 g) than in the midden (29.76 g). Of the four sample units, TU 1 has the lowest weight density of chert. In terms of the abundance of chert, TU 1 is roughly comparable to TU 13 in Block D. The density of chert in TU 8 is nearly twice that of TU 1 (Table 4-6).

Block B Artifact Density

Compared to the other sample units, TU 3 has the lowest weight density of nonchert rock (2,188.44 g) (Table 4-5). In terms of this density, TU 3 is comparable to TU 13 in Block D.

Units 8 and 1 have substantially greater nonchert rock weight densities (3,548.03 g and 5,763.0 g, respectively). Nonchert rock is more abundant in the upper three levels (comprised primarily of plow zone with a minor amount of midden) of TU 3 than in the L4 midden (1602.14 g).

Unit 3 has the second highest density of chert (102.53 g), second only to TU 8 (159.12 g). In TU 3, chert is nearly twice as abundant in the upper three (mostly plow zone) levels than in the L4 midden (53.6 g).

In terms of the weight density of pottery, TU 3 (5,642.82 g) is comparable to TU 13 in Block D (4,834.48 g), but ceramics are substantially more abundant in TU 8 (10,590.8 g) and TU 1 (9,441.96 g). Pottery is a little less abundant in the L3 midden than in the L2 lower plow zone (5,642.82 g), but considerably more abundant than in the L1 upper plow zone (3841.53 g).

Block C Artifact Density

TU 8 in Block C has a much greater weight density of chert (159.12 g) than the other three sample units. Chert is only slightly more abundant in the L3 midden than in the L1 and L2 plow zone (Table 4-6).

In terms of the weight density of nonchert rock, TU8 (3,548.03 g) is second only to TU 1 (5,763.9 g). Nonchert rock is far more abundant in the TU 8 plowzone than in the L3 midden. Surprisingly, nonchert rock is more abundant in the L5 and L6 transition stratum (1,055.51 g and 857.14 g, respectively) than in the midden.

Test Unit 8 has the greatest weight density of ceramics (10,590.8 g). Ceramics are most abundant in the L1 plow zone. It is difficult to explain why the weight density of pottery in the upper (L1) plow zone is twice that of the plow zone deposits in L2 (4,827.59 g). The weight density of pottery in the L3 midden (5,189.72) is only slightly greater than that of the lower plow zone.

Block D Artifact Density

TU 13 in Block D has the third highest weight density of nonchert rock (2,272.06 g) and is, in terms of that variable, comparable to TU 3. Most of the nonchert rock in TU 13 occurs in the plow zone. Relatively little rock (621.57 g) is found in the L3 midden and transitional strata in Unit 13.

Unit 3 also ranks third in terms of chert weight density (76.47 g), and is comparable in that regard to TU 1 (68.03 g). As with nonchert rock, relatively little chert (18.28 g) is present in the L3 midden and transitional strata.

Of the four sample units, TU 13 has the lowest weight density of pottery (4,834.48 g). Pottery is far more abundant in the L1 upper plow zone than in the lower plow zone deposits (482.05 g). The weight density of pottery in the L3 midden and transitional stratum (214.59 g) is somewhat less than in the lower plow zone.

In general, weight density data indicate that artifacts are more abundant in the plow zone than in the midden. For example, density values for nonchert rock in the plow zone exceed those for the midden in three of the sample units (TU 3, 8, and 13). Similarly, chert is more abundant in the plow zone than the midden in units 1, 3, and 13. Finally, the weight density of pottery is greater in the plow zone than the midden in units 3, 8, and 13. Test Unit 1 is the exception in two cases; (nonchert rock and pottery is more abundant in the midden than the plow zone). On balance, these data refute the proposition that artifacts have tended to migrate downward through the sandy soils. Similarly, weight density data suggest that there has not been extensive deposition of new soils subsequent to the time of Native American occupation. Some deposition may have occurred, but not enough to reduce the weight density of artifacts in the upper levels relative to those of the underlying midden.

The preceding sections have discussed the density of artifacts in individual levels, with a focus on those units with the greatest density values. In contrast, Figures 4-14 and 4-15 show the overall density (i.e., all levels combined) for the four samples units. Here one sees the same patterns for both count and weight density. Pottery is the most abundant material, with non-chert rock running a distant second, and chert exhibiting very low densities. Pottery densities are greatest in Block A, but Blocks C and B run a close second and third, respectively. Density values for pottery in Block D are much lower. The four blocks all have comparable densities of non-chert rock, although Block D is again the lowest. The situation is a little different for chert density. Here Blocks B and C have the highest values, whereas Blocks A and D are the lowest.

Occupational Intensity

Data on artifact weights and feature densities provide an opportunity to consider the issue of occupational intensity. Occupational intensity refers to the total amount (e.g., number of person days) of occupation at or very near a particular locus. It is assumed that there is a strong positive correlation between person days of occupation and the amount of domestic debris deposited. Here it is useful to use total weight of the three major artifact categories (chert, nonchert rock, pottery) as a crude index of occupational intensity.

Test Unit 1 (Block A) ranks first in total artifact weight (14,191 g). Units 8 (Block C) and 3 (Block B) rank second and third (respectively), but their total weights are very similar (TU 8=11,680 g, TU 3=10,806 g). TU 13 (Block D) ranks last, with a total artifact weight (3,653 g) much smaller than the other sample units.

Feature density provides a second crude index of occupational intensity. The feature densities used here refer to the number of cultural features per square meter, based on an entire excavation block. In some ways, feature density may be a less reliable index of occupational intensity than total artifact weight. For example, postholes are treated here as features, and a single structure involves a large number of postholes. A posthole associated with a structure may suggest months or even years of occupation by a household group, whereas other features (e.g., carbon concentrations) may represent a single episode of use. No attempt is made here to correct for biases which may result from these factors.

Block B ranks first with a feature density of 1.45. Block C is second, with a density of 1.27 features per m^2. Block D ranks third, with .83 features per m^2, and Block A is in last place, with a density of .31.

Block A is intriguing in that it has the greatest abundance of artifacts (based on TU 1) but the lowest density of features. The only features identified in Block A were five postholes, and most of these were of questionable origin. It may be, however, that Block A is near an area of relatively intense habitation. Structures and features may be distributed in clusters, and it is possible that the four units of Block A simply did not fall within such a cluster. A second (perhaps less parsimonious) possibility is that the Block A area tended to be used more for refuse discard than for actual habitation or other domestic activities.

It is interesting to see that Blocks B and C are comparable in terms of both total artifact weights and feature density. These two blocks are located nearer one another than are any other pair. Blocks B and C have a similar mix of feature types. Block B includes features associated with at least two structures, whereas Block C includes features related to at least one structure.

Block D represents the outlier here, both in terms of its location at the far (grid) west end of the site, and in regard to its relatively low total artifact weight. But despite its paucity of artifacts and compressed stratigraphy, Block D is characterized by a moderate density of features (.83 per m^2). Some of the Block D features (including six of the postholes) have questionable origins, but others are clearly cultural.

Blocks A and D suggest that total artifact weight and feature density probably do not represent equally reliable indices of occupational intensity. Sampling factors are clearly also relevant here. The four blocks excavated in 1994-1995 comprise a tiny sample of the overall site area, and they can not be assumed to be representative of the range of variation present. Despite these limitations, the 1994-1995 excavations provide a substantial body of new information about the Yuchi Town site, and will serve well as a baseline for future investigations.

Table 4-1. Test Unit Location, Dimensions, Looter Holes, and Features.

Block	Unit	North[1]	West[1]	Size	Orient.	Levels	Max. Depth[2]	Looter Holes[3]	Pits[3]	Post-holes[3]	Other Feats.[3]
A	1	1446	2638	2x2	-	6	55	LH713	-	4, 5, 6, 7	
A	2	1446	2640	2x2	-	6	57	LH709	-	-	2
A	5	1444	2638	2x2	-	4	57	LH705, LH707, LH708	-	17	-
A	7	1444	2640	2x2	-	4	56	LH708, LH709, F16	-	-	-
B	3	1480	2630	2x2	-	6	64	1	3	9, 10, 13, 14, 15, 18	8
B	4	1478	2632	2x2	-	6	60	-	12	19, 20	11
B	6	1480	2634	2x2	-	4	54	-	23	26	22, 24
B	9	1476	2630	2x2	-	5	54	-	29, 30	34	29, 31, 32, 33
B	10	1483	2631.5	2x1	N-S	4	52	-	-	-	22, 28
B	17	1482	2628	2x1	N-S	6	58	-	58	59, 60, 76	B1, 63, 70, 81
C	8	1449	2629	2x2	-	7	65	LH157, LH158	28	25	21, 88
C	11	1501	2628	2x1	N-S	5	60	-	-	35, 45, 47, 89	-
C	12	1498	2626	2x1	E-W	5	62	-	-	54, 86	88
C	15	1498	2624	2x1	E-W	5	62	-	49, 53	55	-
C	16	1498	2632	2x1	E-W	5	68	-	-	52	-
C	18	1503	2628	2x1	N-S	5	60	-	62	66, 67, 68, 69, 90	-

C	21	1495	2629	2x1	N-S	5	65	-	65	64, 73	72
C	22	1495	2632	2x2	-	5	67	-	79, 87	78	-
C	24	1497	2631	2x1	N-S	5	60	-	87	85	-
D	13	1516	2696	2x2	-	3	42	LH504	40	50, 61	41, 42, 43, 44
D	14	1514	2692	2x2	-	34	30[4]	LH505, LH507, 3 6, 37, 38, 39	-	-	46
D	19	1512	2696	2x2	-	2	31	-	57	-	56
D	20	1520	2694	2x2	-	2	29	-	-	74, 75, 77, 84	71
D	23	1514	2696	2x1	N-S	2	28[5]	-	40, 82, 83	91	-

Notes:

1 Coordinates of Northwest corner

2 Depth in cm below present ground surface

3 Feature numbers unless prefaced LH

4 TU1 L-7 entails a 25 cm wide trench along E and S walls, to depth of 65 cm bs

5 TU14 L-4 entails a 50 cm wide trench along W wall, to depth of 49 cm bs

6 TU23 L-3 entails a narrow trench along E and W walls, to depth of 50 cm bs

Table 4-2. Feature Type, Location, Dimensions, and Shape.

Feat	Type [1]	North [2]	West [2]	Block	Unit	Zones	Len [3]	Wid [3]	Depth [3]	Plan [4]	Profile [5]	Base [6]
2	0	1445.7	2638.4	A	2	1	-	40	-	ov/rt	irreg	irreg
4	1?	1445.57	2636.95	A	1	1	8	7	14	cir	ver	flat
5	1?	1444.88	2637.2	A	1	1	18	6	10	ov	inslo	basin
6	1?	1444.5	2637.12	A	1	1	5	5	16	cir	ver	basin
7	1?	1444.26	2637.62	A	1	1	7	-	14	cir	ver	basin
17	1	1442.58	2636.38	A	5	1	8	6	12	ov	ver/inslo	con
3	2	1478.55	2628.15	B	3	1	-	-	15	ov/rt	inslo/bell	-
8	3	1479.6	2628.18	B	3	2	16	14	17	cir	inslo	con
9	1	1479.24	2628.3	B	3	1	20	18	27	ov	ver	flat
10	1	1478.6	2628.5	B	3	2	16	3	45	ov	ver	basin
11	4	1477	2630.25	B	4	1	75	30	2	irreg	-	-
12	2.1	1477.3	2631.7	B	4	2	48	34	17	ov	inslo/bell	flat
13	1	1479.15	2629.36	B	3	1	17	16	-	cir	ver	basin
14	1	1478.85	2629.45	B	3	1	18	16	-	cir/rt	ver	flat
15	1.2	1478	2629.15	B	3	2	25	20	-	-	ver/inslo	basin
18	1?	1479.22	2628.79	B	3	1	16	12	8	cir	inslo	basin
19	1	1477.3	2630.4	B	4	1	18	16	16	oval	inslo	flat
20	1	1477.32	2630.66	B	4	1	19	17	26	cir	ver	flat

22	7	1478.4	2632.9	B	6, 10	2	218	34	19	rt	inslo	flat
23	2	1479.15	2632.65	B	6	1	70	65	13	ov/rt	inslo	flat
24	2.1	1479.5	2633.75	B	6	1	-	30	28	ov	ver	basin
26	1	1478.95	2633.35	B	6	1	20	20	20	cir	ver	basin
28	4	1482.75	2630.9	B	10	1	44	40	5	irreg	-	-
29	2	1475.5	2629.7	B	9	1	36	22	19	ov	inslo	basin
30	2	1474.3	2628.8	B	9	1	135	-	14	ov	inslo	flat
31	7?	1474.92	2629.7	B	9	1	-	35	10	rt	inslo	basin
32	0	1475.05	2629.7	B	9	1	20	20	1	cir	-	-
33	3	1475.2	2629.95	B	9	1	21	15	-	oval	inslo	basin
34	1	1474.05	2628.56	B	9	1	18	-	40	cir	ver	flat
58	2	1481.7	2627.7	B	17	1	-	70	23	ov/rt	inslo	flat
59	1.2	1480.46	2627.6	B	17	1	14	12	13	cir	ver	basin
60	1?	1480.38	2627.14	B	17	1	22	20	19	cir	ver	basin
63	2.1	1480.08	2627.82	B	17	1	-	-	6	cir	lense	basin
70	9	1480.64	2627.06	B	17	1	22	21	3	irreg	lense	basin
76	1	1480.43	2627.95	B	17	1	17	-	35	cir/ov	ver	basin
81	10	1481.6	2627.7	B	17	1	84	50	60	ov/rt	inslo	-
21	6	1498.15	2627.6	C	8	3	110	107	16	cir	inslo	basin
25	1	1498.8	2628.85	C	8	1	18	14	12	ov	inslo	basin

27	2	1496	2627.15	C	8	1	-	-	18	-	inslo	flat
35	1.1	1499.7	2627.8	C	11	1	15	12	16	cir	-	-
45	1	1500.22	2627.4	C	11	1	20	16	12	ov	inslo	basin
47	1	1499.22	2627.84	C	11	1	16	14	8	cir	inslo	basin
49	2	1497.1	2624.1	C	15	-	-	-	-	-	-	-
52	1.1	1497	2630.44	C	16	1	-	12	56	-	inslo/ver	basin
53	2	1497	2623.9	C	12, 15	1	-	65	32	-	inslo	flat
54	1	1498	2624.55	C	12	-	-	26	46	-	inslo	basin
55	1	1498	2622.94	C	15	-	-	24	30	-	inslo	flat
62	2	1502.8	2627.85	C	18	-	-	36	-	ov/rt	-	-
64	1?	1494.06	2627.26	C	21	1	22	16	10	ov	ver/inslo	flat
65	2?	1493.58	2627.78	C	21	1	25	22	3	ov	inslo	flat
66	1	1502.15	2627.7	C	18	1	30	26	13	ov	ver	basin
67	1	1501.48	2627.05	C	18	1	16	-	20	ov/cir	ver/inslo	basin
68	1	1501.52	2627.83	C	18	1	16	16	10	cir	ver/inslo	basin
69	1	1501.38	2627.64	C	18	1	14	12	12	ov	ver/inslo	basin
72	7	1493.26	2627.2	C	21	1	-	42	20	ov	inslo	basin
73	1	1494.58	2628.18	C	21	1	28	18	7	ov	inslo	basin
78	1	1494.28	2631.26	C	22	1	20	20	10	cir	inslo	basin
79	2?	1493.16	2630.08	C	22	3	-	-	10	-	lense	flat

80	1	1500.28	2627	C	11	1	18	-	30	-	ver	basin
85	1	1496.58	2630.22	C	24	1	16	16	30	cir	ver	flat
86	1.1	1497.3	2624.5	C	12	1	6	6	-	cir	-	-
87	2	1495.6	2630.5	C	22, 24	1	155	130	28	ov	-	-
88	11	1498	2627	C	8,12	1	-	-	13	irreg	irreg	flat
89	1?	1500.85	2627	C	11	1	14	-	24	-	inslo	flat
90	1?	1501.05	2627	C	18	1	13	-	22	-	ver	basin
40	2	1514.2	2695.6	D	13	1	100	-	15	irreg	ver/inslo	flat
41	2?	1514.8	2695.7	D	13	1	-	36	6	irreg	ver/inslo	flat
42	0	1514.3	2694.75	D	13	-	-	28	-	-	-	-
43	0	1515.25	2695.9	D	13	1	54	-	18	ov/rt	bell	flat
44	3	1514.9	2694.75	D	13	1	14	12	6	rt	lense	flat
46	3	1513.95	2691.8	D	14	1	-	22	7	cir	lense	flat
50	1?	1514.8	2695.8	D	13	1	15	15	20	cir	ver	flat
56	0	1510.75	2695.4	D	19	1	40	40	-	cir	-	-
57	2	1511.1	2694.9	D	19	1	96	90	14	ov/rt	ver/inslo	flat
61	1?	1515.9	2695.8	D	13	1	13	13	13	cir	ver/inslo	flat
71	2.1	1519.32	2692.28	D	20	3	46	46	13	ov	inslo	basin
74	1?	1518.05	2693.15	D	20	1	-	25	28	irreg	inslo	flat
75	1?	1518.3	2693.63	D	20	1	20	20	11	cir	inslo/ver	flat

Table 4-3. Looter Hole Location, Dimensions, Shape, and Impacts on Cultural Deposits.

F/LH	North	West	Blk	TU	Zones	Len	Wid	Dep	Plan	Profile	Base	Strata Impacted	Features Impacted
F 16	1442.25	2634.75	A	7	1	66	60	30	ov/rt	irreg	irreg	pz, mid	-
LH 705	1442.1	2638.2	A	5	1	-	-	30	ov/rt	inslo	flat	pz, mid	-
LH 707	1442.75	2636.28	A	5	1	115	70	35	ov/rt	inslo	basin	pz, mid	-
LH 708	1442.95	2637.9	A	5	1	77	81	20	ov/rt	-	-	pz	-
LH 709	1444.2	2638.6	A	2	1	173	96	32	ov/rt	inslo	basin	pz, mid	-
LH 713	1444.9	2637.1	A	1	1	145	135	28	ov/rt	inslo	basin	pz, mid	F5, F6
F 1	1478.7	2628.2	B	3	3	115	-	52	rt	ver	-	pz, mid, trans	F3 (burial), Str. 3
F 51	1502.84	2627.5	C	18	1	46	41	29	ov	inslo	basin	pz	Str. 1
LH 157	1497.65	2627.05	C	8	1	52	-	48	ov/rt	irreg	irreg	pz, trans	burial?, Str. 1
LH 158	1497.05	2628.75	C	8	1	115	-	50	ov/rt	irreg	irreg	pz, trans	burial?, Str. 1
F 36	1512.9	2691.65	D	14	1	-	78	36	ov	ver/inslo	flat	pz?, trans	-
F 37	1512.95	2691.05	D	14	-	40	32	44	ov/rt	ver/inslo	basin	pz?, trans	-
F 38	1512.85	2690.15	D	14	1	-	76	38	irreg	inslo	irreg	pz?, trans	-
F 39	1513.6	2691.85	D	14	2	-	30	42	ov	inslo	irreg	pz?, trans	-
LH 504	1515	2693.5	D	13	1	250	224	50	ov/rt	inslo	basin	pz, mid, trans	-
LH 505	1513.8	2690.9	D	14	1	-	-	12	irreg	inslo	basin	pz	-
LH 507	1512.2	2691.8	D	14	1	90	70	36	ov/rt	inslo	basin		-

Notes: Length, width, and depth in cm. Depth is below point of definition, not ground surface; ov=oval, rt=rectangular, irreg=irregular; ver=vertical, inslo=insloping, irreg=irregular; flat=flat base, basin=dish-shaped base, irreg=irregular; pz=plow zone, mid=midden, trans=transitional, Str.=Structure

77	1?	1519.92	2693.4	D	20	1	18	16	9	cir	inslo	basin
82	2	1513.6	2695	D	23	1	36	-	18	ov/rt	inslo	basin
83	2	1513.2	2695	D	23	1	62	-	20	irreg	inslo	flat
84	1	1518	2692.68	D	20	1	8	-	26	ov	ver	basin
91	1?	1512.85	2695.14	D	23	1	13	12	15	cir	inslo	basin

Notes:

1 0= noncultural, 1= posthole, 1.1= carbonized post, 1.2=clay filled posthole, 1?=possible posthole, 2=pit, 2.1=corncob pit, 3=carbon concentration, 4=faunal concentration, 5=house basin, 6=hearth, 7=wall trench, 9=clay lense, 10=burial pit

2 North and West coordinates of feature centerpoint

3 length, width, and depth maximum dimensions in cm. Depth is below point of definition, not below ground surface.

4 cir=circular, ov=oval, rt=rectangular, irreg=irregular

5 ver=vertical, inslo=insloping, bell=belled, lense=no significant side walls, irreg=irregula

6 lat=flat base, basin=dish-shaped base, irreg=irregular

Table 4-4. Number and Density of Feature Types in Blocks A, B, C, and D.

Type [1]	Block A Features	Block A Density [2]	Block B Features	Block B Density [2]	Block C Features	Block C Density [2]	Block D Features	Block D Density [2]	Total Features	Total Density [2]
0	1	0.06	1	0.05	0	0	3	0.17	5	0.07
1	1	0.06	9	0.45	13	0.59	1	0.06	24	0.32
1?	4	0.25	2	0.1	3	0.14	6	0.33	15	0.2
1.1	0	0	0	0	3	0.14	0	0	3	0.04
1.2	0	0	2	0.1	0	0	0	0	2	0.03
2	0	0	5	0.25	7	0.32	5	0.28	17	0.22
2.1	0	0	3	0.15	0	0	1	0.06	4	0.05
3	0	0	2	0.1	0	0	2	0.11	4	0.05
4	0	0	2	0.1	0	0	0	0	2	0.03
6	0	0	0	0	1	0.05	0	0	1	0.01
7	0	0	1	0.05	1	0.05	0	0	2	0.03
9	0	0	1	0.05	0	0	0	0	1	0.01
10	0	0	1	0.05	0	0	0	0	1	0.01
11	0	0	1	0.05	0	0	0	0	1	0.01
Total	6	0.38	29	1.45	28	1.27	18	1	81	1.07

Notes:
1 0=noncultural, 1=posthole, 1?=possible posthole, 1.1=carbonized post, 1.2=clay filled posthole, 2=pit, 3=carbon concentration, 4=faunal concentration, 6=hearth, 7=wall trench, 8=clay lense, 10=burial pit, 11=daub concentration; 2 Density=number of features divided by area excavated

Table 4-5. Uncorrected Radiocarbon Assays from Yuchi Town.

Lab No[1]	Radiocarbon Years B.P.[2]	^{13}C	Sample Comp	Provenience	Interpretation
ISGS-3076	310 ± 70	-26.9 per mil PDB	Wood charcoal	F 52, an in-situ carbonized wall post associated with Structure 1, TU 16, Block C	Dates Structure 1, (corroborates ISGS-3080)
ISGS-3077	290 ± 70	-23.5 per mil PDB	Wood charcoal	F 63, a carbon concentration on the floor of Structure 3, TU 17, Block B	Dates Structure 3
ISGS-3078	370 ± 70	-25.6 per mil PDB	Wood charcoal	F 23, a pit superimposed on top of F22, a wall trench associated with Structure 2, TU 6, Block B	Suggests latest possible date for Structure 2
ISGS-3079	210 ± 70	-15.5 per mil PDB	Wood, cane, corn	F 46, a carbon concentration in TU 14, Block D	Provides one reference point for date of occupation in Block D
ISGS-3080	320 ± 70	-25.4 per mil PDB	Wood charcoal	Wall or roof fall from Structure 1, TU 8, Block C	Dates Structure 1, (corroborates ISGS-3076)

Notes: 1 Processed by Dr. Chao-Li Jack Liu, Illinois State Geological Survey, University of Illinois, Urbana. 2 Corrected for isotopic fractionation but not for error in half-life of ^{14}C or variations in atmospheric concentration of ^{14}C.

Table 4-6. Artifact Density (by Count and Weight) Per Cubic Meter.

TU	Level	Depth (cm bs)	Stratum	Sample vol m^3	Rock n/m^3	Rock g/m^3	Chert n/m^3	Chert g/m^3	Pot n/m^3	Pot g/m^3
1	1	surface to 10.75	plow	0.3112	-	-	-	-	1311.05	4235.22
	2	10.75 to 20.	plow	0.3159	-	-	-	-	1940.49	5957.58
	3	20. to 23.75	midden	0.1373	-	-	-	-	2745.81	9315.37
	1, 2, 3	surface to 23.75	plow, midden	0.7644	236.8	2274.99	24.86	68.03	1828.89	5859.5
	4	23.75 to 34.25	midden	0.4032	372	5763.9	17.36	29.76	1989.09	9441.96
	5	34.25 to 43.75	trans.	0.37	137.8	1327	2.7	5.41	567.57	3027.03
	6	43.75 to 54.	B hor.	0.391	10.23	140.66	2.56	7.67	61.38	273.66
	7	54. to 66.5	B hor.	0.0625	-	-	-	-	0	0
3	1	surface to 10.	plow	0.366	-	-	-	-	1278.69	3841.53
	2	10. to 19.63	plow	0.3578	-	-	-	-	1735.61	5642.82
	3	19.63 to 30.5	midden	0.4076	-	-	-	-	1315.02	5299.31
	1, 2, 3	surface to 30.5	plow, midden	1.1314	213	2188.44	30.05	102.53	1502.56	5158.21
	4	30.5 to 39.75	midden	0.3358	208.5	1602.14	11.91	53.6	658.13	3263.85
	5	39.75 to 50.25	midden, trans.	0.3738	56.18	465.49	5.35	18.73	232.75	1474.05

	6	50.25 to 60.25	trans.	0.366	8.2	68.31	0	0	87.43	601.09
8	1	surface to 14.5	plow	0.4553	-	-	-	-	3298.92	10590.8
	2	14.5 to 19.25	plow	0.1798	-	-	-	-	1373.75	4827.59
	1, 2	surface to 19.25	plow	0.635	385.8	3548.03	40.94	149.61	2777.95	8960.63
	3	19.25 to 23.5	midden	0.1634	110.2	660.95	48.96	159.12	1481.03	5189.72
	4	23.5 to 27.	daub	0.1359	44.1	831.01	22.06	66.19	823.65	4581.56
	5	27. to 36.75	trans.	0.3837	106.9	1055.51	2.61	5.21	656.76	1803.49
	6	36.75 to 46.75	trans.	0.392	28.06	857.14	0	0	158.16	836.73
	7	46.75 to 54.5	trans	0.145	55.2	462.07	0	0	124.14	586.21
13	1	surf. to 10.	plow	0.29	-	-	-	-	1155.17	4834.48
	2	10. to 21.3	plow	0.39	-	-	-	-	1515.38	482.05
	1, 2	surface to 21.3	plow	0.68	279.4	2272.06	19.12	76.47	1361.76	2338.24
	3	21.3 to 30.33	midden trans.	0.33	48.8	621.57	6.09	18.28	49.45	214.59

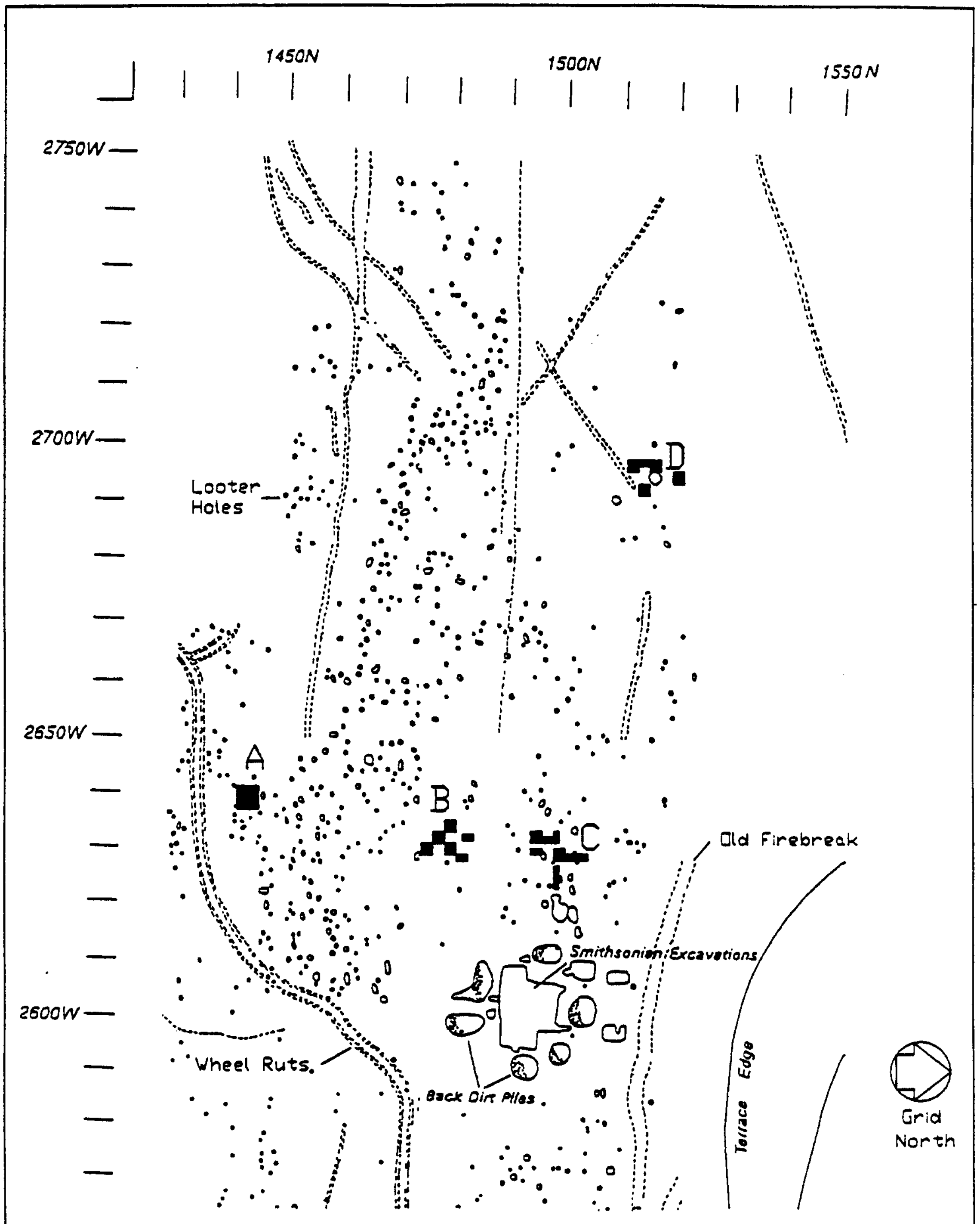


Figure 4-1. Location of USACERL Blocks A, B, C, and D at North End of Yuchi Town Site. (After Braley 1994:22).

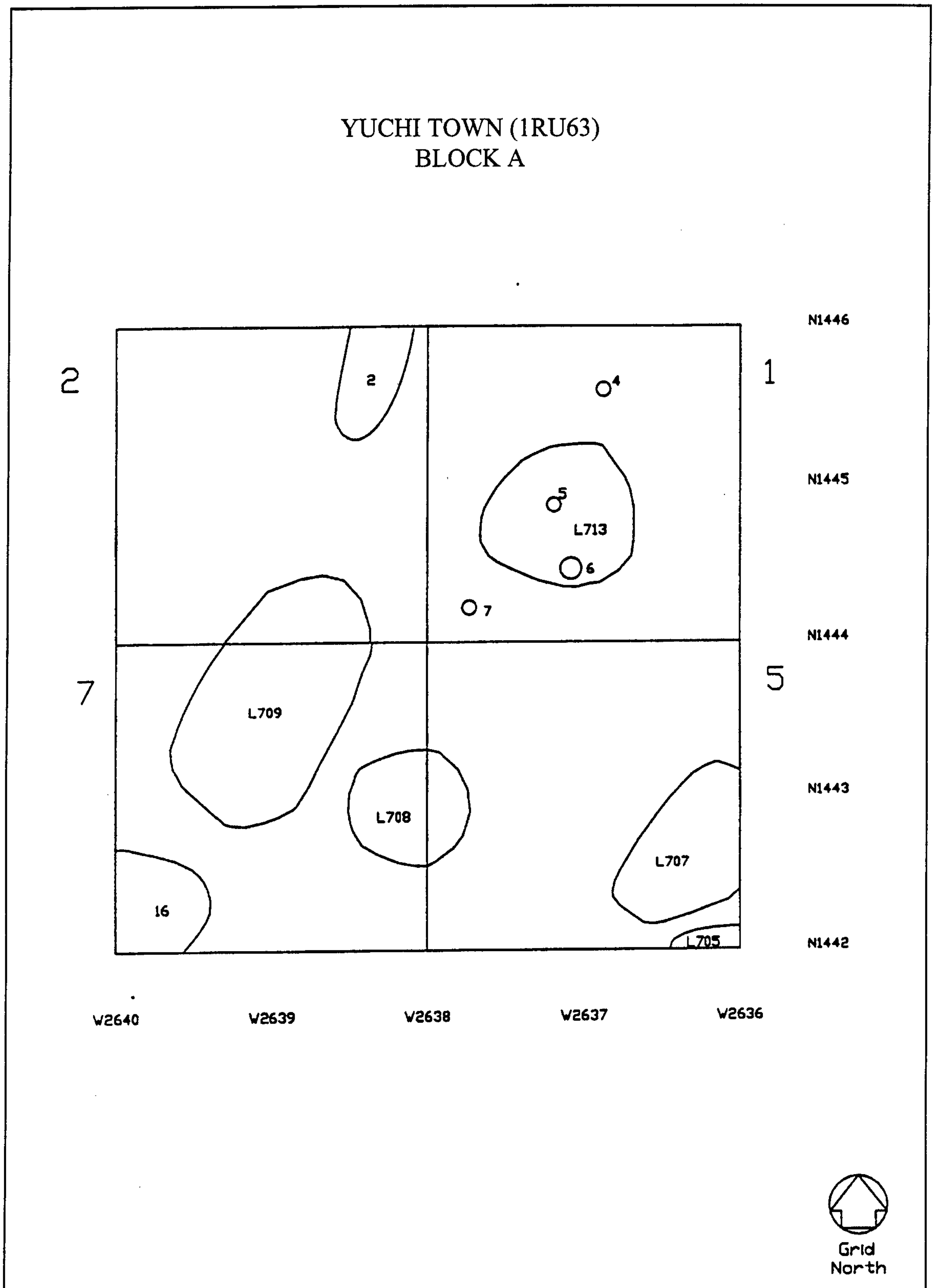


Figure 4-2. Block A Plan.

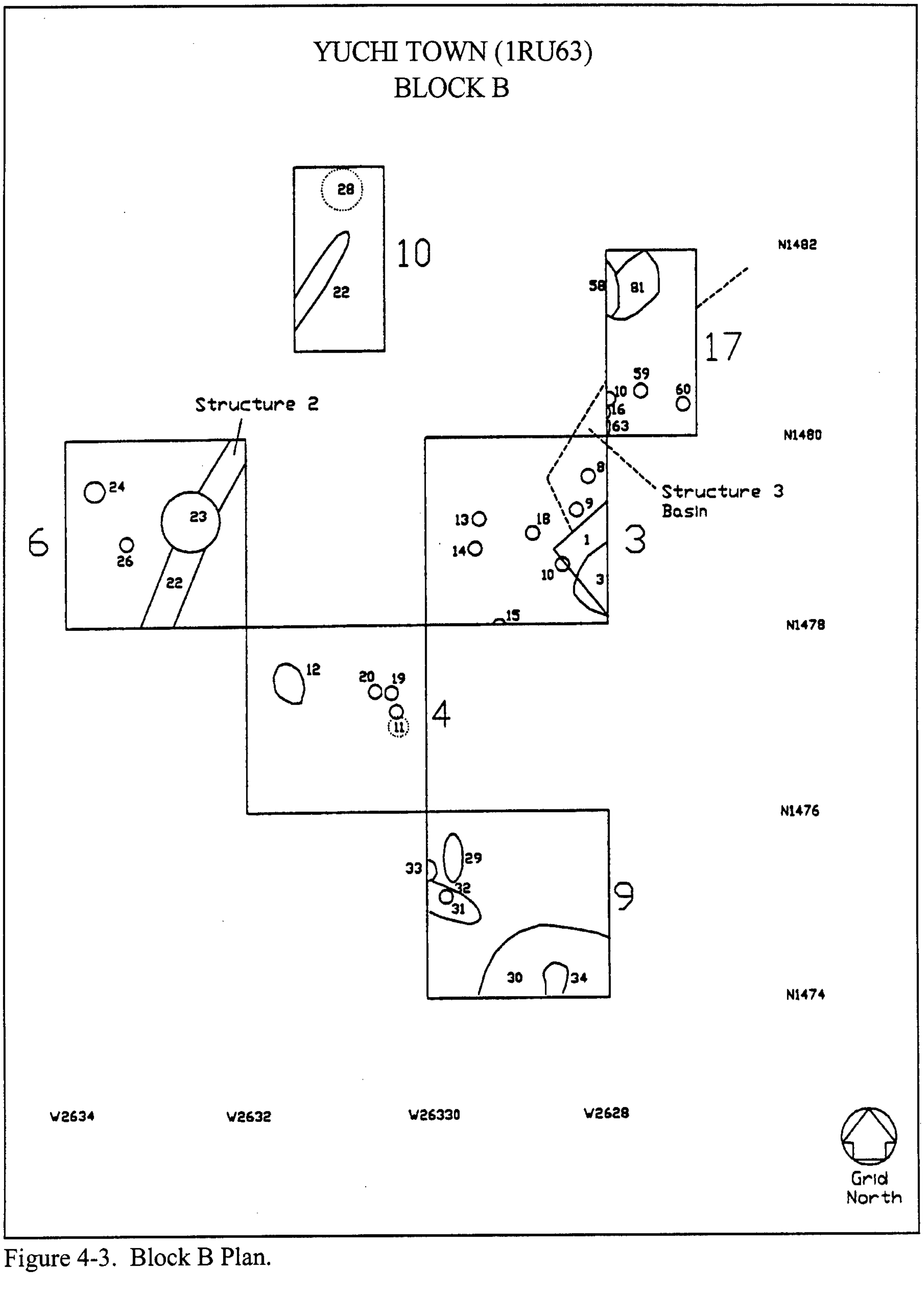


Figure 4-3. Block B Plan.

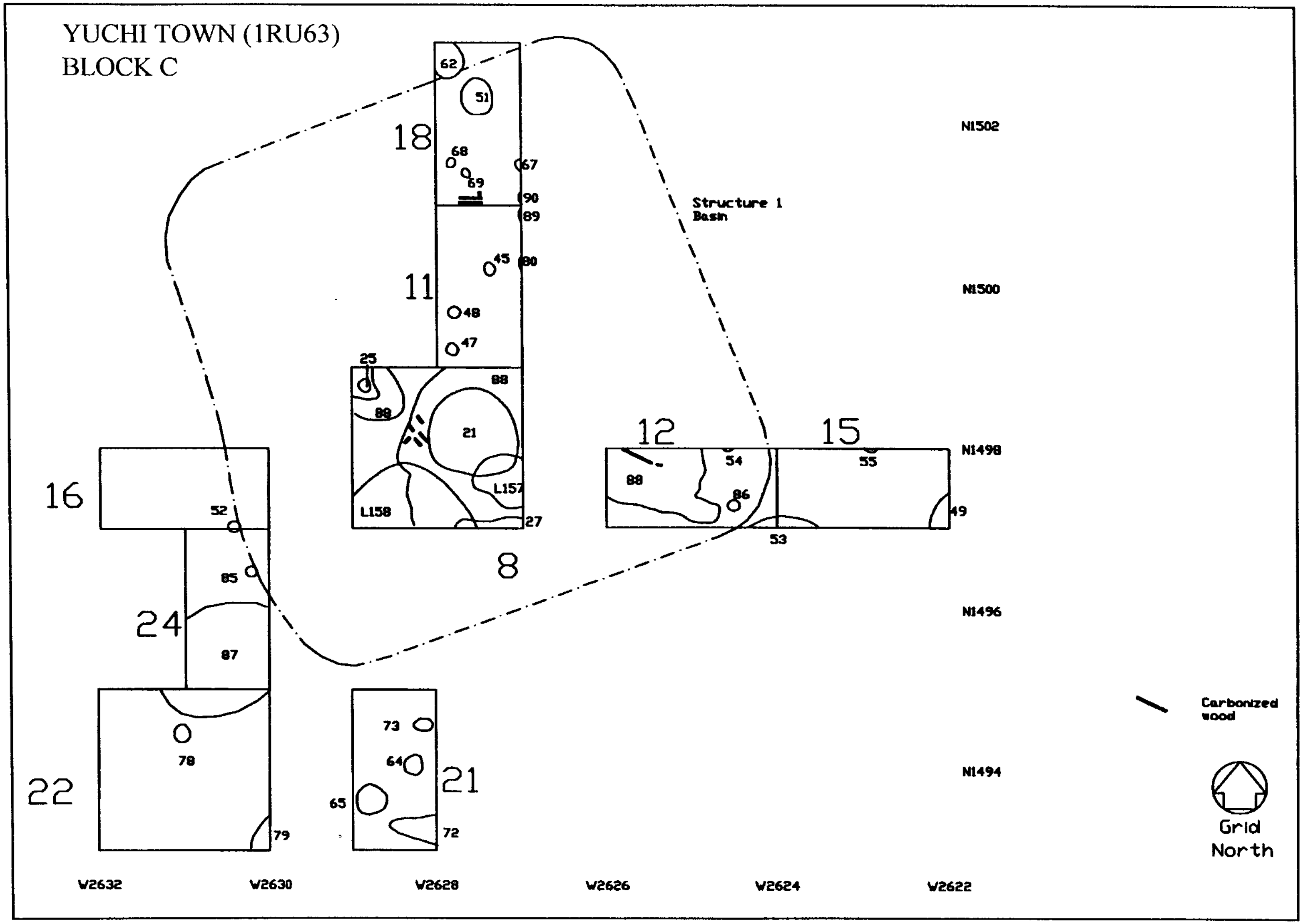


Figure 4-4. Block C Plan.

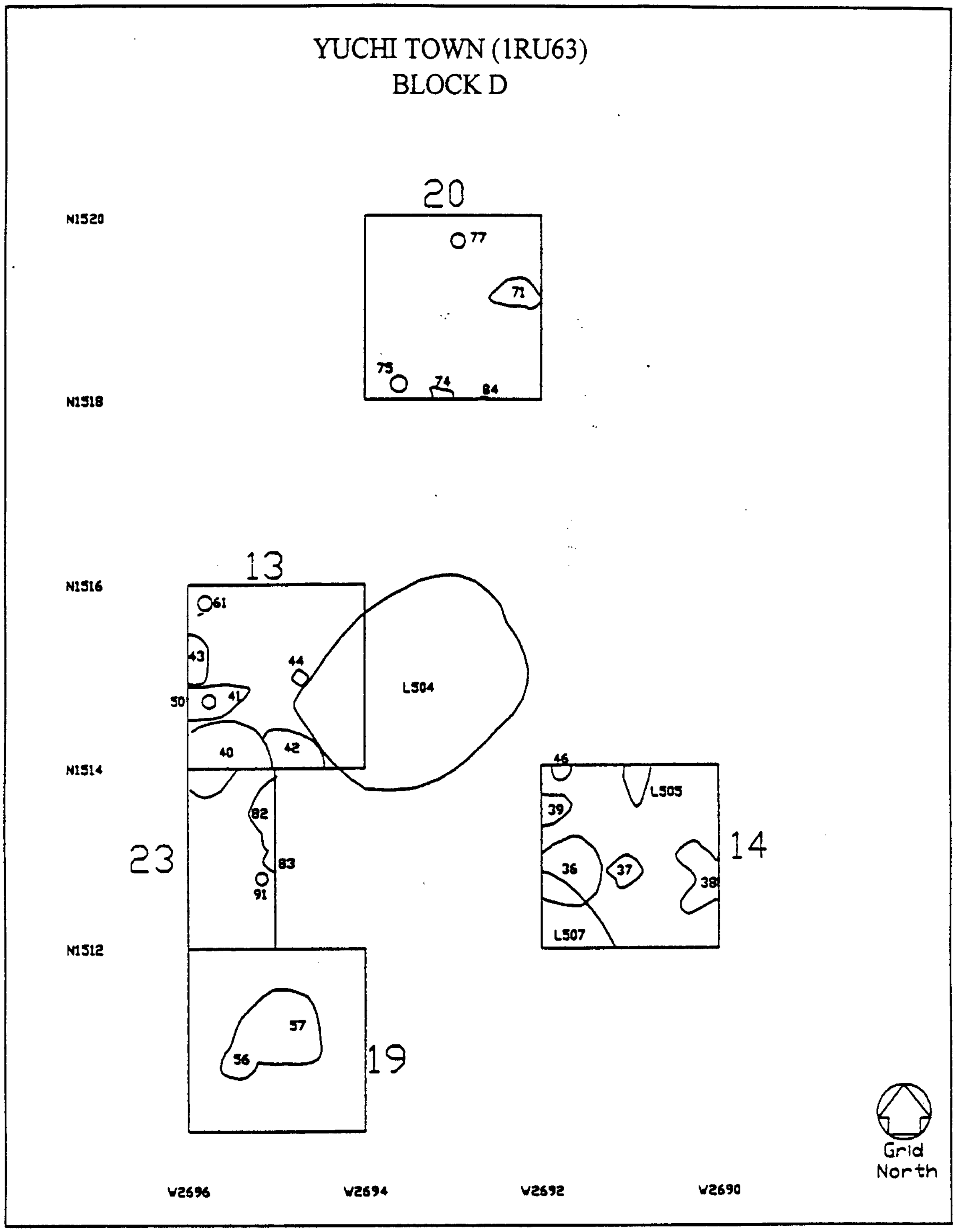
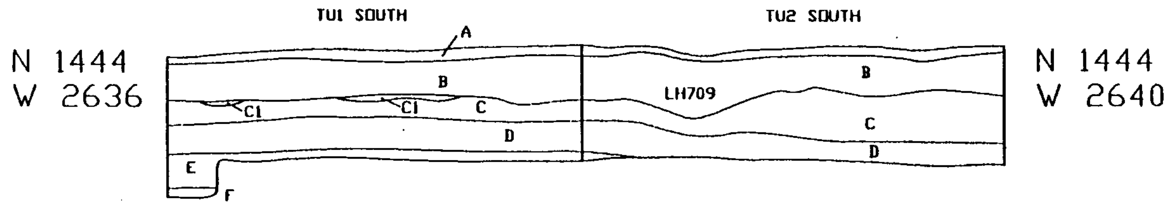


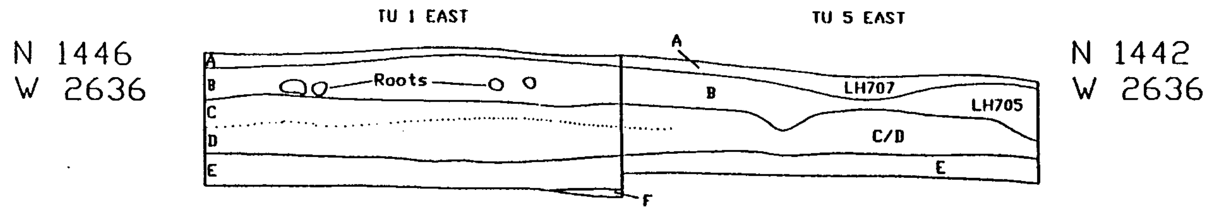
Figure 4-5. Block D Plan.



Block A Strata:

A	Humus: 10YR2/1 black fine sandy loam, clear lower boundary, no structure
B	Historic plow zone: 10YR3/3 dark brown fine sandy loam, uniform color, granular structure, abrupt lower boundary
C	Midden: 7.5YR3/2 dark brown fine sandy loam, very weak large angular blocky structure, clear lower boundary
D	Transitional between A and B horizons: 7.5YR3/2 dark brown at top, 7.5YR3/4 dark brown with occasional mottles of 7.5YR4/4 brown-dark brown at bottom, lower boundary somewhat arbitrary
E	B horizon: 10YR4/6 dark yellowish brown sandy loam, uniform color, upper 8-12 cm appears unstructured, lower portions exhibit moderate sub-angular blocky structure
F	10YR4/6 dark yellowish brown clayey sand loam, moderate sub-angular blocky structure

Figure 4-6. Block A East-West Profile (South Walls of Test Units 1 and 2).



Block A Strata:

A Humus: 10YR2/1 black fine sandy loam, clear lower boundary, no structure

B Historic plow zone: 10YR3/3 dark brown fine sandy loam, uniform color, granular structure, abrupt lower boundary

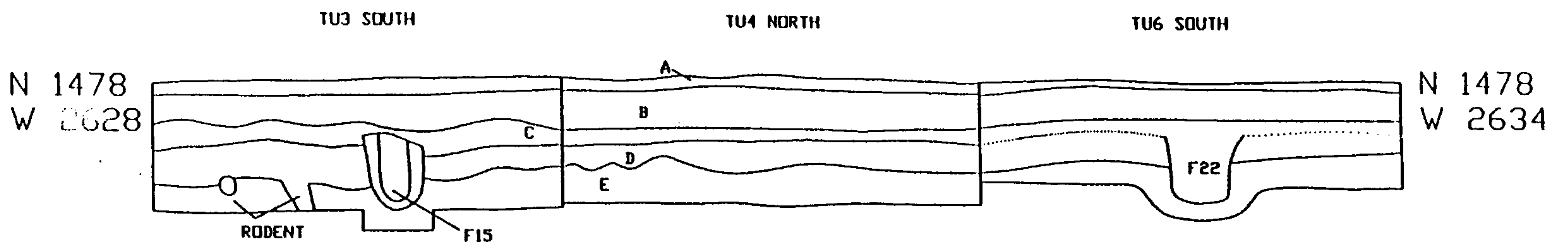
C Midden: 7.5YR3/2 dark brown fine sandy loam, very weak large angular blocky structure, clear lower boundary

D Transitional between A and B horizons: 7.5YR3/2 dark brown at top, 7.5YR3/4 dark brown with occasional mottles of 7.5YR4/4 brown-dark brown at bottom, lower boundary somewhat arbitrary

E B horizon: 10YR4/6 dark yellowish brown sandy loam, uniform color, upper 8-12 cm appears unstructured, lower portions exhibit moderate sub-angular blocky structure

F 10YR4/6 dark yellowish brown clayey sand loam, moderate sub-angular blocky structure

Figure 4-7. Block A North-South Profile (East Walls of Test Units 1 and 5).



Block B Strata:

A Humus: 10YR2/2 very dark brown fine sandy loam, clear lower boundary, no structure

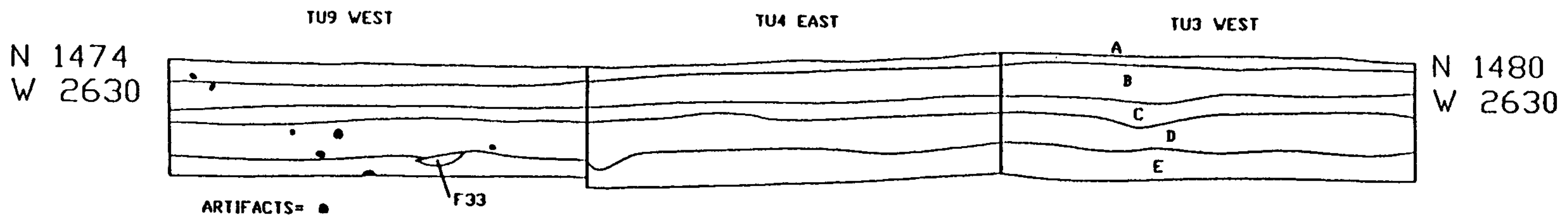
B Historic plow zone: 10YR3/3 dark brown fine sandy loam, uniform color, granular structure, abrupt lower boundary

C Midden: 10YR3/3 dark brown fine sandy loam, very weak large angular blocky structure, uniform color, indefinite lower boundary

D Transitional between A and B horizons: 10YR3/4 dark yellowish brown sandy loam, nonuniform soil color, artifact density decreases top to bottom, little to no carbon

E B horizon: 10YR3/6 dark yellowish brown sandy silt loam, uniform color

Figure 4-8. Block B East-West Profile (South Walls of Test Units 3 and 6, North Wall of Unit 4).



Block B Strata:

A Humus: 10YR2/2 very dark brown fine sandy loam, clear lower boundary, no structure

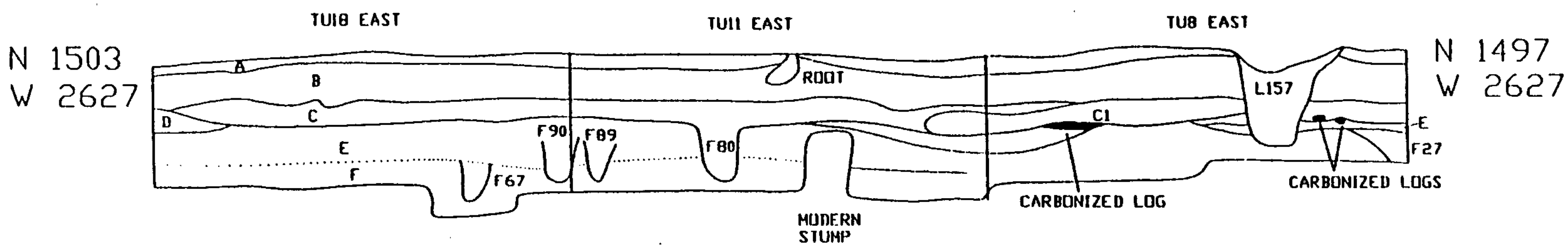
B Historic plow zone: 10YR3/3-3/4 dark brown fine sandy loam, uniform color, granular structure, abrupt lower boundary

C Midden: 10YR3/3 dark brown fine sandy loam, very weak large angular blocky structure, uniform color, indefinite lower boundary

D Transitional between A and B horizons: 10YR3/4 dark yellowish brown with mottles of 10YR4/6 dark yellowish brown sandy loam, nonuniform soil color, artifact density decreases top to bottom, little to no carbon

E B horizon: 10YR3/6 dark yellowish brown sandy silt loam, uniform color, very few artifacts, little to no carbon

Figure 4-9. Block B North-South Profile (West Walls of Test Units 3 and 9, East Wall of Unit 4).



Block C Strata:

A Humus: 10YR2/1 black to 10YR2/2 very dark brown fine sandy loam, granular structure

B Historic plow zone: 7.5YR3/4 dark brown to 10YR3/2 very dark grayish-brown fine sandy loam, uniform color, granular structure, abrupt lower boundary

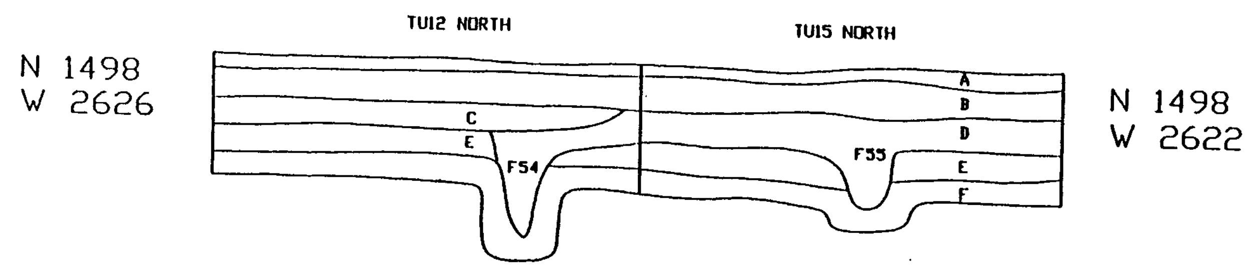
C Structure basin fill: 10YR3/2 very dark grayish-brown fine sandy loam, very weak subangular blocky structure; in some areas (C_1) comprised primarily of daub fragments up to 10 cm in diameter, base of stratum often marked by thin smear of carbon and discontinuous in-situ oxidized soil

D Transitional between Ap and B horizons: includes the organically stained upper portion of the B horizon, 7.5YR3/2 to 10YR3/3-3/4 dark brown-dark yellowish brown sandy loam, weak and very fine subangular blocky structure, structure is weaker and more diffuse in lower portion of stratum, somewhat arbitrary lower boundary

E Transitional between stratum C (basin fill) and stratum F (B horizon), weak and very fine subangular blocky structure near top with little structure at base, sparse artifacts result from migration from overlying strata, lower boundary based on limits of mottling from above

F B horizon: 7.5YR4/6 strong brown to 10YR4/6 dark yellowish brown fine sand, granular structure, uniform color and texture

Figure 4-10. Block C North-South Profile (East Walls of Test Units 8, 11, and 18).



Block C Strata:

A Humus: 10YR2/1 black to 10YR2/2 very dark brown fine sandy loam, granular structure

B Historic plow zone: 7.5YR3/4 dark brown to 10YR3/2 very dark grayish-brown fine sandy loam, uniform color, granular structure, abrupt lower boundary

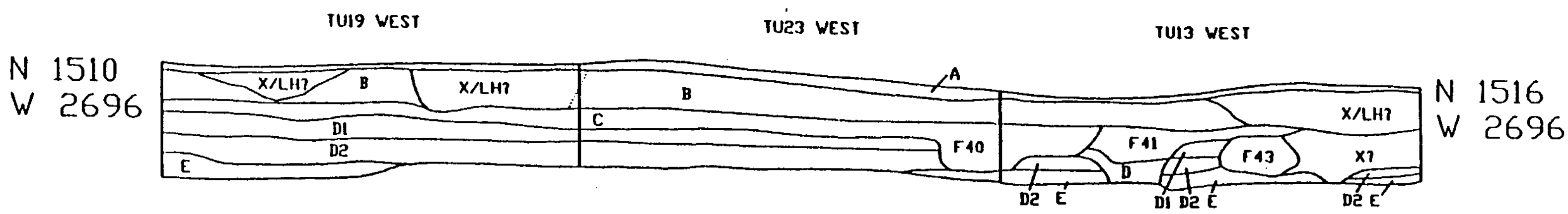
C Structure basin fill: 10YR3/2 very dark grayish-brown fine sandy loam, very weak subangular blocky structure; in some areas (C_1) comprised primarily of daub fragments up to 10 cm in diameter, base of stratum often marked by thin smear of carbon and discontinuous in-situ oxidized soil

D Transitional between Ap and B horizons: includes the organically stained upper portion of the B horizon, 7.5YR3/2 to 10YR3/3-3/4 dark brown-dark yellowish brown sandy loam, weak and very fine subangular blocky structure, structure is weaker and more diffuse in lower portion of stratum, somewhat arbitrary lower boundary

E Transitional between stratum C (basin fill) and stratum F (B horizon), weak and very fine subangular blocky structure near top with little structure at base, sparse artifacts result from migration from overlying strata, lower boundary based on limits of mottling from above

F B horizon: 7.5YR4/6 strong brown to 10YR4/6 dark yellowish brown fine sand, granular structure, uniform color and texture

Figure 4-11. Block C East-West Profile (North Walls of Test Units 12 and 15).



Block D Strata:

A Humus: 10YR3/2 very dark grayish brown to 10YR3/3 dark brown sandy loam

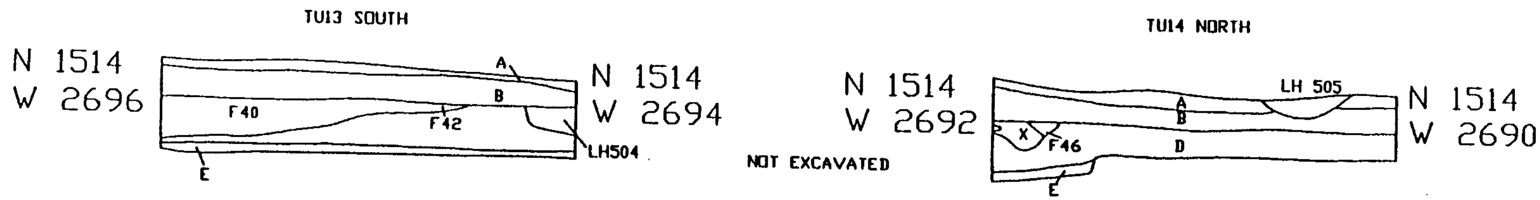
B Historic plow zone: 10YR4/3 brown to dark brown fine sandy loam, uniform color, granular structure, abrupt lower boundary

C Midden: 10YR3/3 dark brown mottled with 10YR4/4 dark yellowish brown and 10YR5/4 yellowish brown fine sandy loam, contains carbon flecks, shell, artifacts

D Transitional between A and B horizons: 10YR4/6 dark yellowish brown with irregular patches of 10YR4/3 brown to dark brown sandy loam, abrupt lower boundary

E B horizon: 5YR4/6 yellowish red clayey sand

Figure 4-12. Block D North-South Profile (West Walls of Test Units 13, 19, and 23).



Block D Strata:

A Humus: 10YR3/2 very dark grayish brown to 10YR3/3 dark brown sandy loam

B Historic plow zone: 10YR4/3 brown to dark brown fine sandy loam, uniform color, granular structure, abrupt lower boundary

C Midden: 10YR3/3 dark brown mottled with 10YR4/4 dark yellowish brown and 10YR5/4 yellowish brown fine sandy loam, contains carbon flecks, shell, artifacts

D Transitional between A and B horizons: 10YR4/6 dark yellowish brown with irregular patches of 10YR4/3 brown to dark brown sandy loam, abrupt lower boundary

E B horizon: 5YR4/6 yellowish red clayey sand

X Disturbed area (not the result of looting)

Figure 4-13. Block D East-West Profile (North wall of Test Unit 14 and South Wall of Test Unit 13).

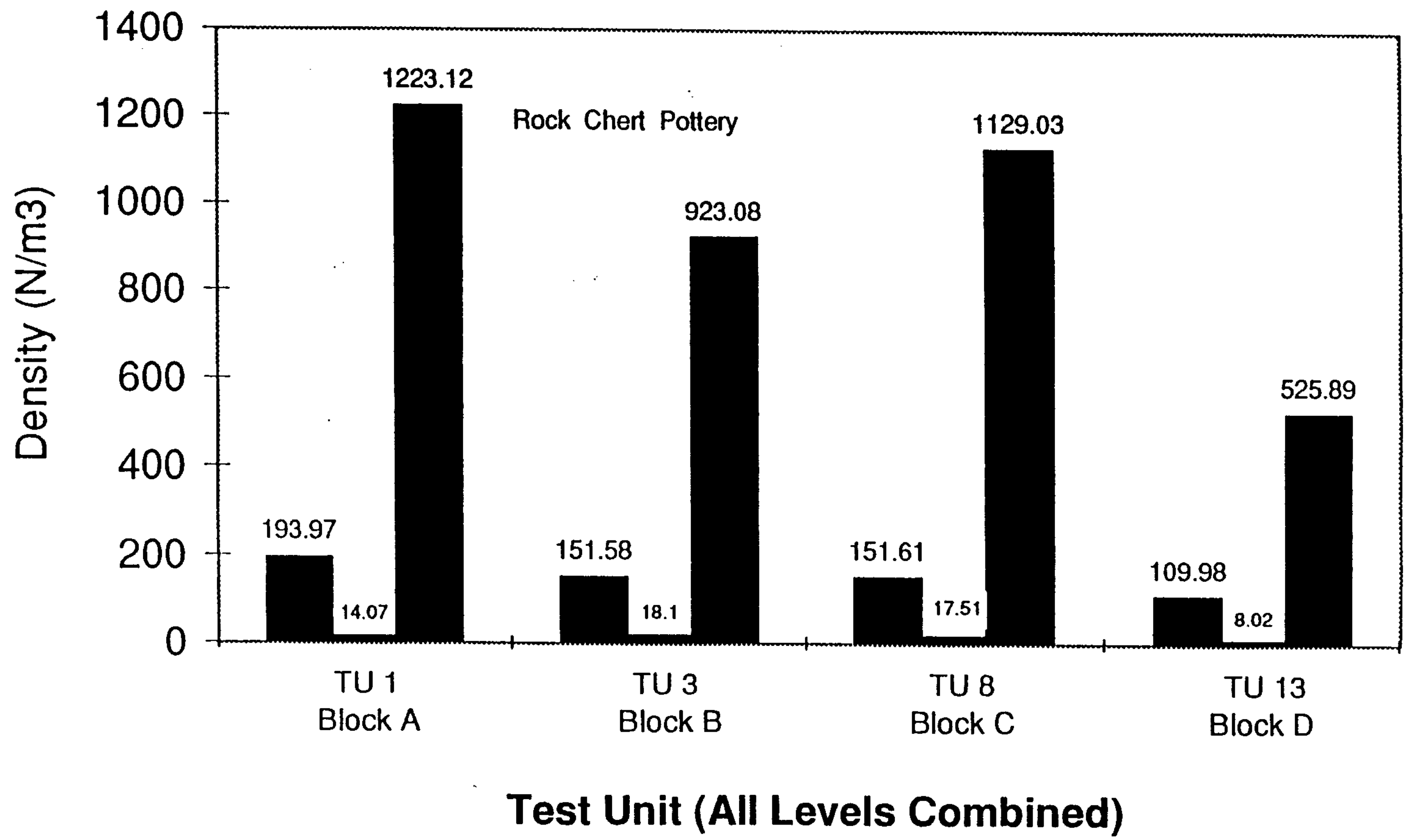


Figure 4-14. Artifact Count Density (n/m3) in Test Units.

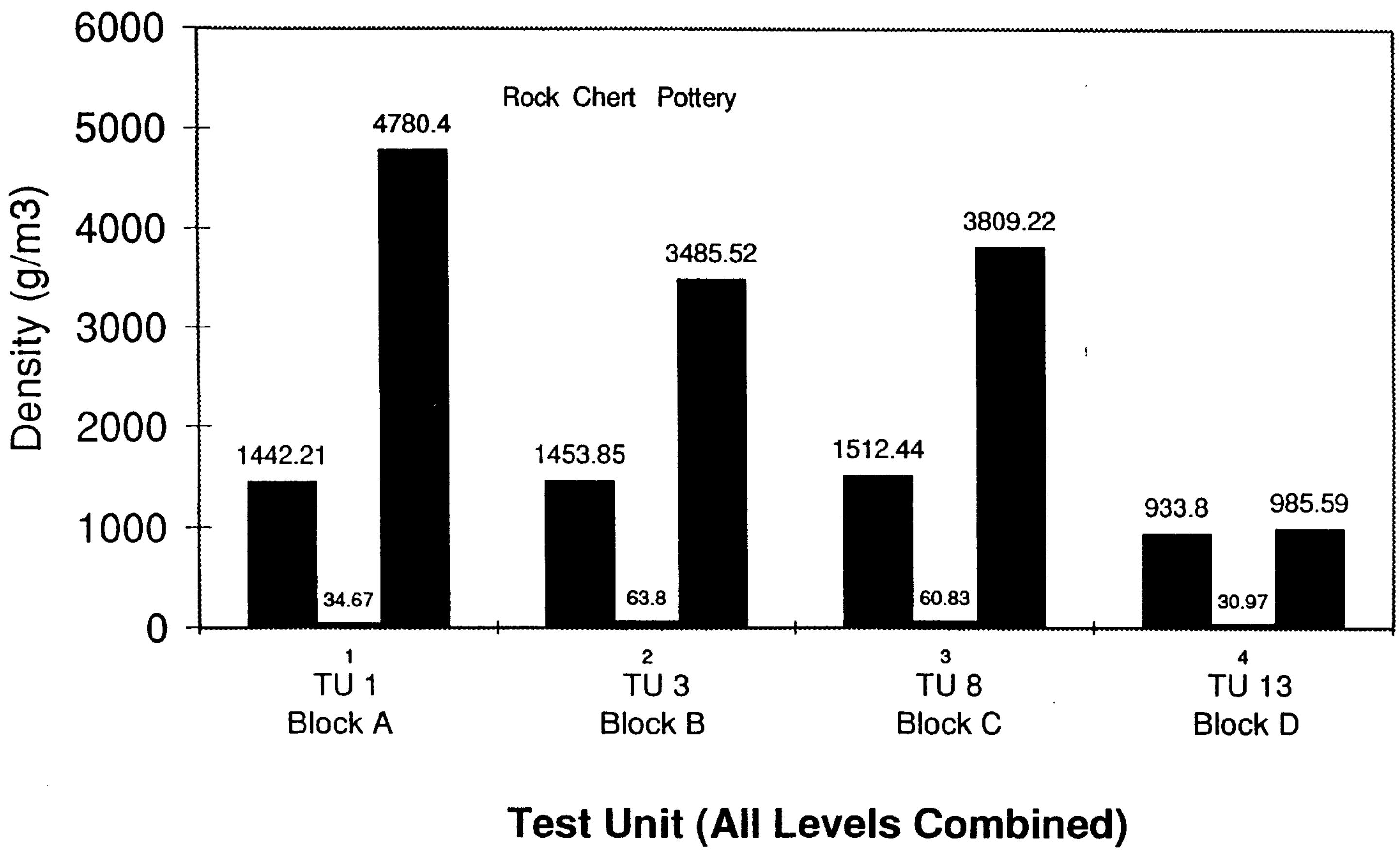


Figure 4-15. Artifact Weight Density (g/m3) in Test Units.

Plate 4-1. Excavation in Progress, Test Units 1 and 2, Block A

Plate 4-2. Excavation in Progress, Test Units 3, 4, 6, and 9, Block B.

Plate 4-3. Profile View of Feature 34, Test Unit 9, Block B.

Plate 4-4. Profile View of Feature 52 (In-Situ Post), Test Unit 16, Block C.

Plate 4-5. Feature 48, Test Unit 11, Block C.

Plate 4-6. Feature 85, Test Unit 24, Block C.

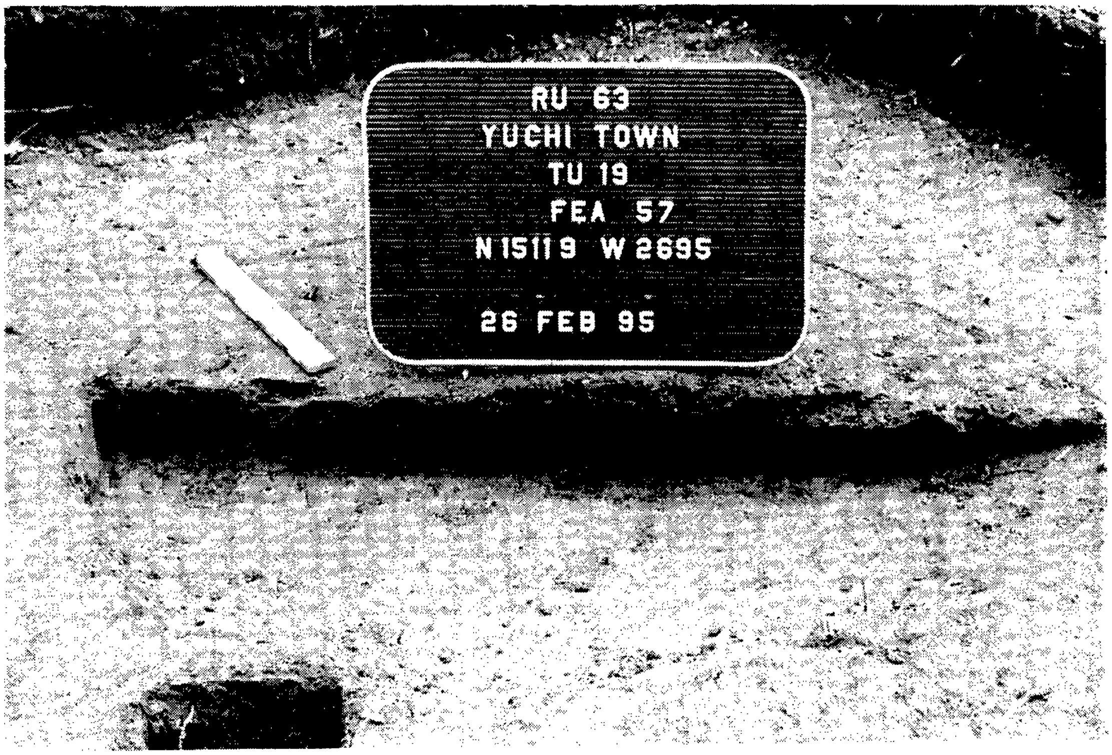


Plate 4-7. Profile View of Feature 57, Test Unit 19, Block D.

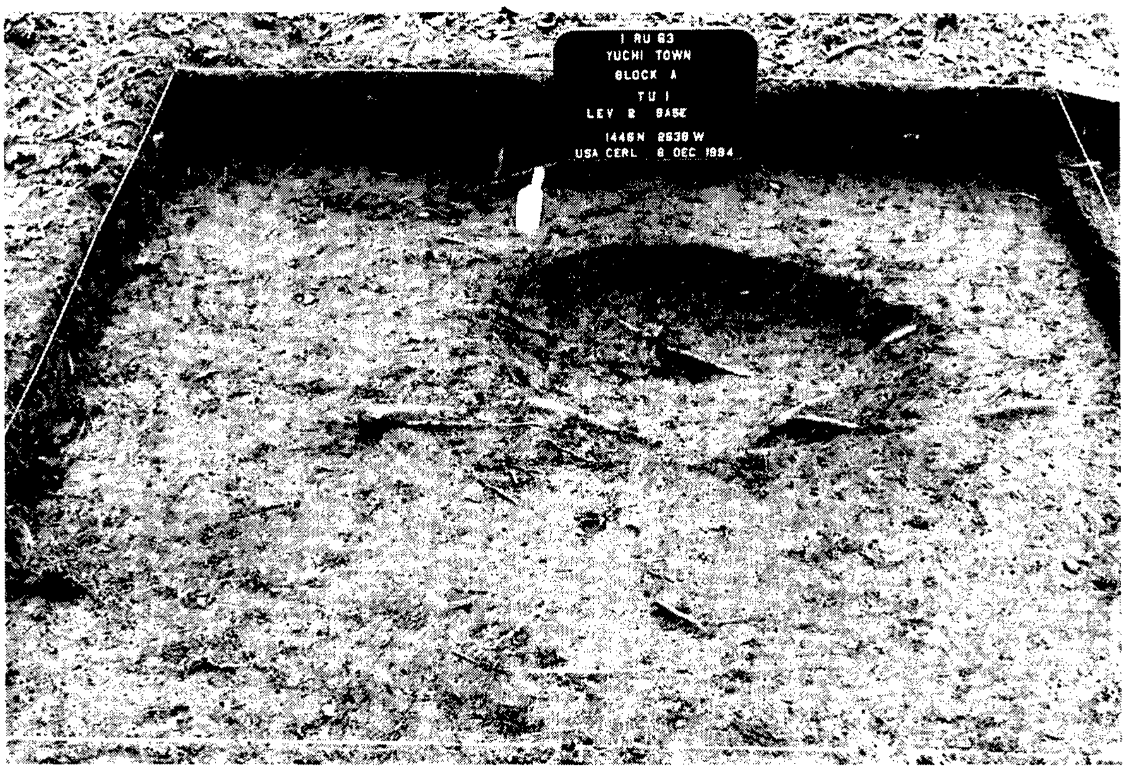


Plate 4-8. Looter Hole 713, Test Unit 1, Base of Level 2, Block A.

Plate 4-9. Looter Holes 707 (Left) and 708 Before Excavation, Test Unit 5, Block A.

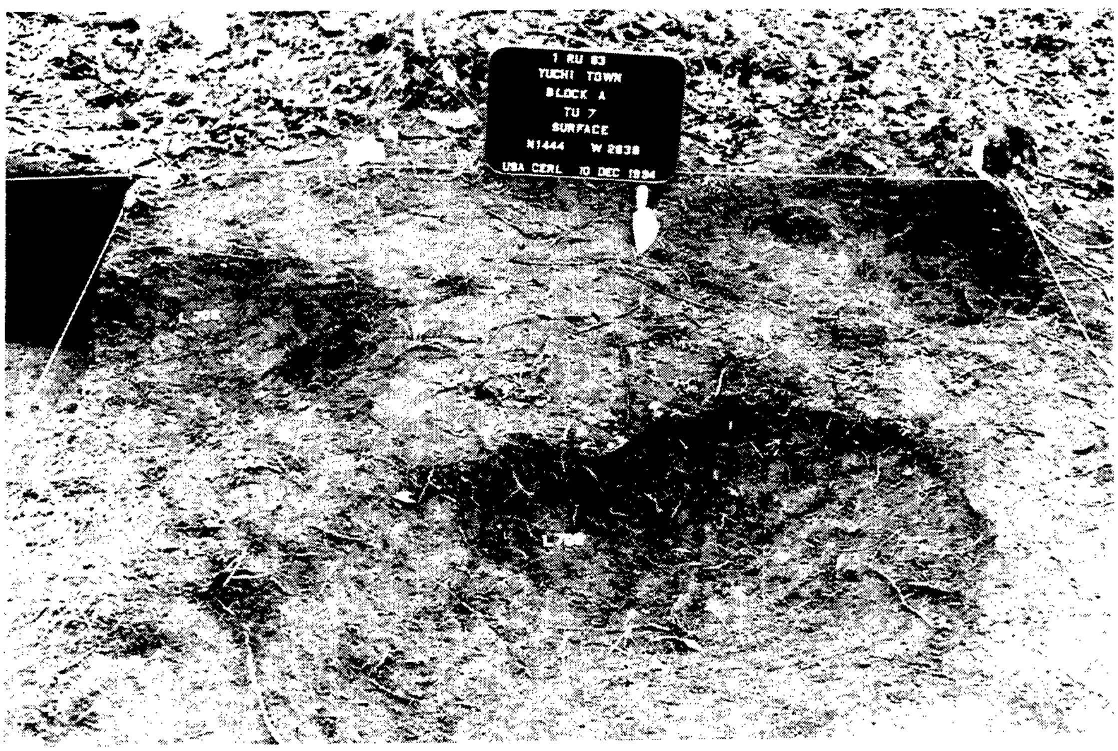


Plate 4-10. Looter Holes 708 (Left), F 16 (Right), and 709, Test Unit 7, Block A.

Plate 4-11. Looter Hole F 1 Intruding into F 3, Test Unit 3, Block B.

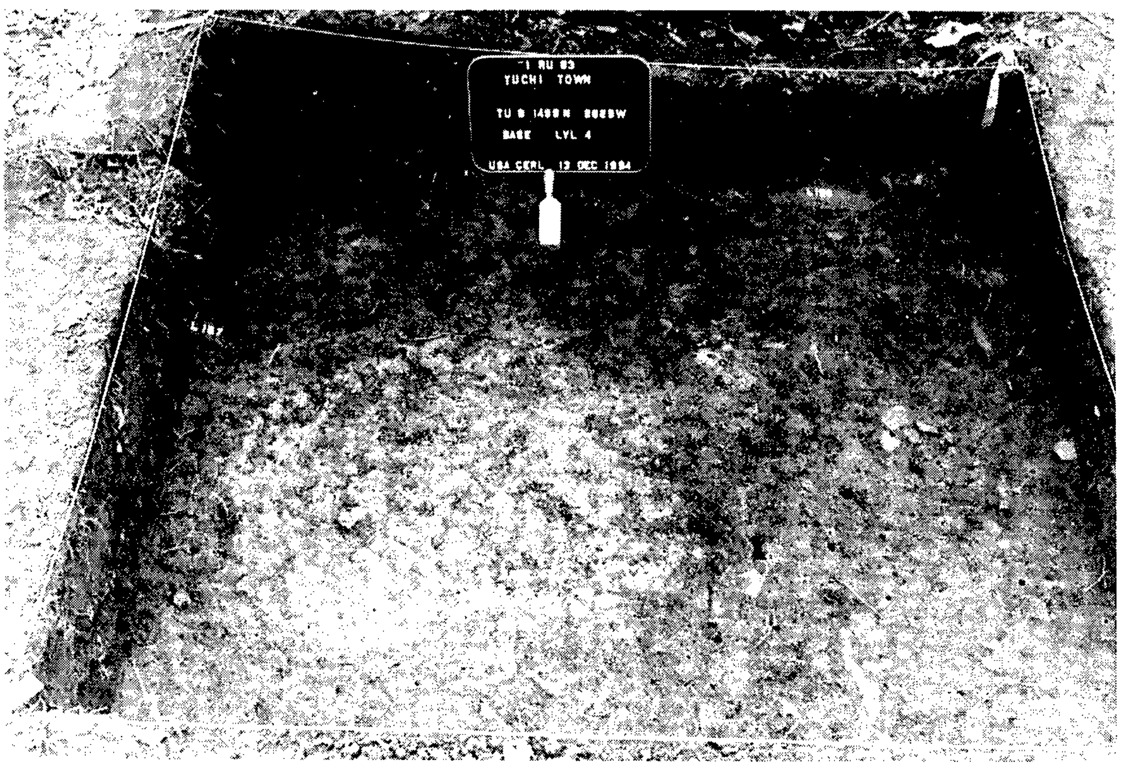


Plate 4-12. Looter Holes 157 (Left) and 158, F 21 (Hearth), Test Unit 8, Block C.

Plate 4-13. Looter Hole F 51, Test Unit 18, Block C.

Plate 4-14. Looter Hole 507, Test Unit 14, Block D.

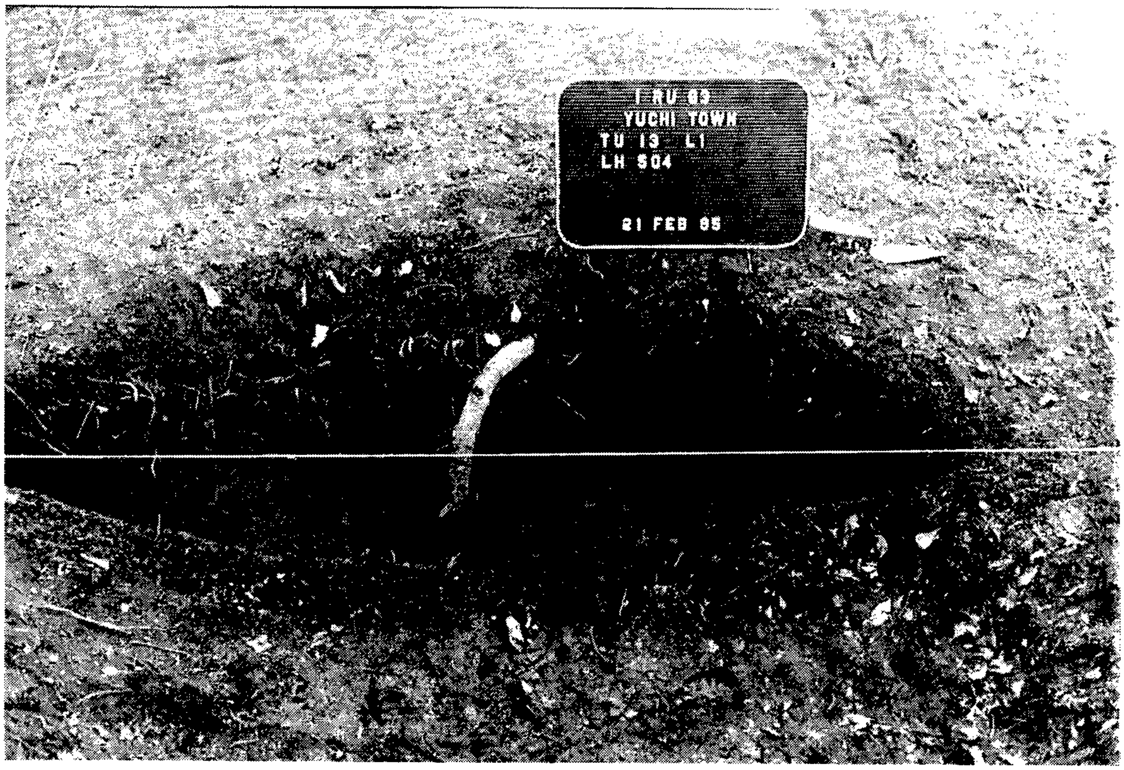


Plate 4-15. Looter Hole 504, Test Unit 13, Block D.

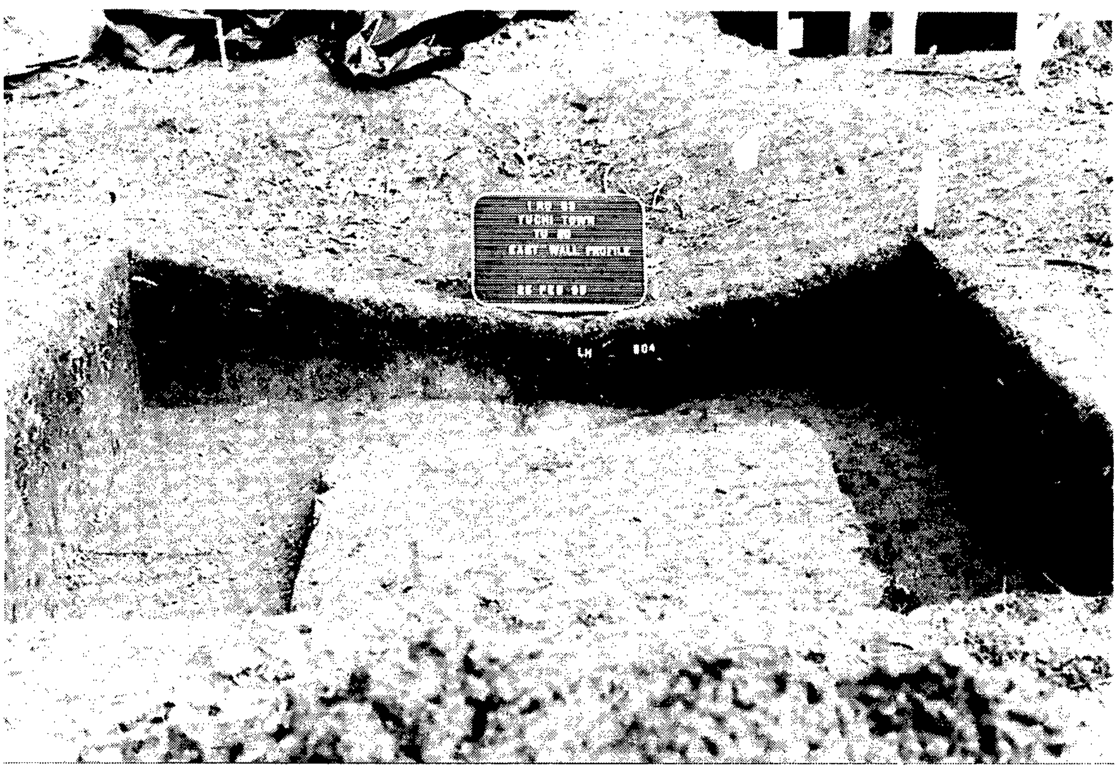


Plate 4-16. Looter Hole 504, Test Unit 20, Block D.

Chapter 5
A Typological and Stratigraphic Analysis of Yuchi Town Ceramics

Michael L. Hargrave

The analysis of the pottery excavated at Yuchi Town in 1994-1995 was designed to meet three basic objectives: 1) to describe the composition of the assemblage in terms of extant types and varieties, 2) to assess evidence for horizontal component patterning, and 3) to use ceramic data as a basis for determining if intact stratified deposits are present in the areas investigated.

Extant Typology

Virtually all of the analyzed pottery from the USACERL excavations at Yuchi Town are associated with Blackmon (A.D. 1625 to 1715) and Lawson Field (A.D. 1715 to 1835) phase occupations. The following brief overview of the ceramic assemblages of these phases is based primarily on work by Schnell (1990), Knight (1994), and Mistovich and Knight (1986).

Blackmon Phase

In terms of chronology, ceramic style, and technology, the Blackmon phase is transitional between the Abercrombie and Lawson Field phases. Indications of continuity from Abercrombie (A.D. 1550-1625) to Blackmon include the use of certain vessel forms, the mixture of shell and nonshell (grit) tempering, and the use of burnishing, brushing, corncob impression, and stipple roughening as surface treatments (Knight 1994:189). The Blackmon phase also shows influence from a number of nonlocal sources. The use of certain incised line decorative techniques indicates connections with late Dallas cultures, while the occurrence of grog tempering, complicated stamping, check stamping, and red filming suggests ties to the Apalachee mission sites. Blackmon phase pottery also displays evidence of interaction with Alabama complexes, including the McKee Island, Woods Island, and Atasi phases (Mistovich and Knight 1986: 39, 56). Ceramic types and combinations of temper and surface treatment characterizing the Blackmon phase assemblage are shown in Table 5.1

Lawson Field Phase

The basic characteristics of the Lawson Field phase ceramic assemblage have been recognized since the excavation of the type site, the Creek town of Kasita (Willey and Sears 1952). Evidence of continuity between Blackmon and Lawson Field includes particular incised designs on bowls and use of brushed surface treatments on jars. Burnishing is used

little, if at all, in the Lawson Field assemblage. Subtle differences between the Blackmon and Lawson Field assemblages include gradual shifts in the relative abundance of types (Knight 1994:189). In general, the Lawson Field assemblage is dominated by Chattahoochee Roughened var. Chattahoochee (synonymous with Chattahoochee Brushed). Sand and grit temper are used extensively, with little or no use of shell tempering. Temperless vessels of the Toulouse Plain and Toulouse Incised types are substantially more common in Lawson Field than in the Blackmon assemblage. However, the McKee Island Cordmarked and Fortune Noded types are not present in Lawson Field. Types, varieties, and other combinations of temper and surface treatment characteristic of the Lawson Field phase are listed in Table 5.1.

Analysis Methods

The analysis of the Yuchi Town pottery and other clay artifacts proceeded as follows. All materials were first rescreened in the lab using .5 in mesh. Items large enough to remain in the screen were analyzed, whereas the smaller fraction was rebagged. All counts and weights presented here refer only to materials larger than .5 in. The clay artifacts were then sorted into two categories: sherds and non-vessel fired clay. Weights for the two categories were recorded. The non-vessel category was then subdivided into daub and other fired clay and counts were recorded. Daub was distinguished by the presence of stick impressions. Other fired clay was characterized by the apparent absence of temper and overall proportions expected of a vessel fragment, (e.g., no inner and outer wall surfaces).

Sherds were sorted into 23 types and other analytical categories. Sorting procedures followed the key illustrated in Figure 5.1. This key was developed by Mistovich and Knight (1986:57) and modified slightly for use with the Yuchi Town material following suggestions by Frank Schnell Jr. (personal communication, February, 1995). Counts for each category were recorded on the analysis sheets presented as Figure 5.2. The typological sorting was performed by Carrie Small under the direction of the author.

Typological sorting began with a division of the sherds into three temper categories: shell, nonshell, and untempered. Sherds were categorized as shell tempered if at least one piece of shell was present or several lenticular holes believed to be the result of a leaching of the shell were observed. The temper categories were then subdivided on the basis of primary surface treatment. Surface categories included plain, roughened, incised, noded, cordmarked, and painted. Sherds were categorized as plain if they were not heavily eroded and no other primary surface treatment was present.

Primary surface treatment categories were subdivided into secondary treatments, including burnished, nonburnished, brushed, corn cobmarked, red filmed and reduced, and red filmed and oxidized. A conservative approach was adopted in the analysis, with uncertain cases being assigned to the residual categories.

Figure 5-2 shows how combinations of temper, primary surface, and secondary surface treatments correspond to formal type-varieties and other analytical categories. Examples of the latter include residual plain-shell temper, residual burnished-shell temper, etc. Sherds which did not fit into the predefined categories were described on the analysis sheets. These atypical sherds are not, however, included in Tables 5-2 and 5-3.

Assemblage Composition

The following description of the Yuchi Town ceramic assemblage is based on data from the four sample units: TU 1 in Block A, TU 3 in Block B, TU 8 in Block C, and TU 13 in Block D. These four units produced a total of approximately 7,054 sherds weighing about 27,128 g. This sample includes 6,585 body sherds and 469 rims. Forty-two percent of the sherds are shell tempered and 58% are non-shell. No temperless sherds were identified.

Nonshell Tempered Sherds

Residual plain-nonshell (n=3,498) represents the single largest category (Table 5-2). Most of these (3,160) are simply plain, but applique strips are present on 36 (1%) of the specimens. Distinctive washed surfaces with protruding temper characterizes 302 (8.63%) of the residual plain-nonshell. This surface treatment is believed to be a characteristic of the Lawson Field phase (Schnell, personal communication, February 1995).

The residual burnished-nonshell category is represented by only 35 sherds (.85% of the nonshell total). Fifteen other burnished nonshell sherds are present in the Lamar Burnished Incised, var. Ocmulgee Fields category, bringing the total percentage of burnished to 1.2% of all nonshell.

Chattahoochee Roughened is the dominant type among the nonshell tempered sherds (n=292) (Table 5-3). This type accounts for 39% of the sherds which can be assigned to a formal type. Chattahoochee Roughened, var. Chattahoochee (n=265) is far more common than the corncob impressed Wedowee variety (n=27). About one-third (89, 30.5%) of the Chattahoochee Roughened sherds display the distinctive washed surfaces with protruding temper particles.

Lamar Incised var. Ocmulgee Fields represents the second most abundant formal type among the nonshell tempered pottery. The 245 examples of this type variety represent 33% of the sherds assigned to formal types. Most (230, 93.9%) of the Lamar Incised sherds are not burnished but a few (15, 6.1%) are categorized as Lamar Incised Burnished, var. Ocmulgee Fields (Table 5-2).

Two minor types, Kasita Red Filmed and Mission Red Filmed, occur in similar frequencies; (Mission Red Filmed n=14, Kasita Red Filmed n=17). These types each represent

2% of the sherds assigned to formal types. The two types are distinguished on the basis of the apparent firing atmosphere. Kasita Red Filmed sherds are oxidized whereas Mission Red Filmed sherds are reduced.

The four sample units produced no examples of the Leon Check Stamped or Lamar Complicated Stamp types included in Figures 5-1 and 5-2.

Shell Tempered

Residual plain-shell is the second largest category in the overall sample, with 2,618 specimens (Table 5-2). This category accounts for 88.7% of all shell tempered sherds. Most of these (2,443) are simply plain sherds which can not be assigned to a formal type. The distinctive washed surface described above is present on only 28 (1.1%). If this surface is distinctive of the Lawson Field phase, these sherds suggest that shell tempering is not entirely absent in that assemblage. An applique strip is present on 95 (3.6%) of the residual plain-shell sherds. Only 2% (n=52) of the residual plain-shell tempered sherds are burnished. Residual Incised-shell tempered sherds make up a relatively small category (n=162, 5.5% of all shell tempered sherds). A minority (23, 14.2%) of these are burnished.

Walnut Roughened represents the only shell tempered type present in any significant amount (n=154, 21% of the sherds assignable to formal types) (Table 5-3). Most of these display brushed surfaces and thus represent the McKee Island variety (n=134, 87% of the type). A few of these (12, 9% of the variety) display the distinctive washed surface with protruding temper particles. Walnut Roughened, variety Spanish Fort is distinguished by corn cob impressed surfaces. This variety is represented by 20 specimens (13% of the type), and only one displays the distinctive washed surface (Table 5-2).

One minor shell tempered type, McKee Island Cordmarked, is also present in the sample assemblage. The 19 specimens of this type represent 3% of the sherds assignable to formal types.

Horizontal Distributions

The horizontal distribution of pottery types and analytical categories provides an opportunity to examine evidence for component patterning at the northwestern end of Yuchi Town. Previous studies have identified several useful distinctions between the Blackmon and Lawson Field pottery assemblages (Knight 1994; Mistovich and Knight 1986). Both shell and nonshell tempering were used by Blackmon phase potters, but that there was little (if any) use of shell during the Lawson Field phase. Blackmon phase potters occasionally used burnishing as a secondary surface treatment, but its use was dramatically reduced in Lawson Field. Finally, Chattahoochee Roughened, var. Chattahoochee is generally recognized as the ceramic hallmark of the Lawson Field phase, but was a very minor type during the Blackmon

phase (Table 5-1).

A cursory inspection of Tables 5-2 and 5-3 shows that both Blackmon and Lawson Field phase pottery is present in each of the four sample units. It is possible, however, that some areas were occupied more intensively during one phase than during the other, and these differences in occupational intensity may be reflected in the composition of the ceramic assemblage. Site areas that were occupied most intensively during the Lawson Field phase are expected to be characterized by relatively high percentages of nonshell tempered sherds and Chattahoochee Roughened, and by relatively low percentages of burnished sherds. Areas occupied most intensively during the Blackmon phase are expected to have relatively high percentages of shell tempered and burnished sherds, but relatively low percentages of Chattahoochee Roughened.

The incidence of shell tempering in the four sample units ranges from a low of 36% in TU 1 (Block A) to a high of 50% in TU 13 (Block D) (Table 5.2). Units 3 and 8 are intermediate, with shell tempering percentages of 44% and 43%, respectively. Block D may have seen somewhat more intense occupation during the Blackmon phase, when shell tempering was commonly used. The relative abundance of burnished sherds also supports this possibility. Percentages of burnished sherds range from .8% in TU 1 to 3.1% in TU 8. Unit 13 has a relatively high incidence (2.9%) of burnished sherds. Unfortunately, these observations are not supported by the relative abundance of Chattahoochee Roughened. The percentage of Chattahoochee Roughened ranges from a low of 27% in TU 8 to a high of 51% in TU 1. Test Unit 13 has the second highest incidence (45%) of this type. The abundance of Chattahoochee Roughened in TU 13 suggests a relatively intense occupation during the Lawson Field phase. This is compatible with the sole radiocarbon assay for Block D, 210 ± 70 B.P.

The evidence is a little more straight-forward in TU 1. Based on the relative abundance (51%) of Chattahoochee Roughened and of nonshell tempered sherds in general (64%), TU 1 appears to have seen relatively intense occupation during the Lawson Field phase. The relative paucity of burnished surfaces (.8% of all sherds) in TU 1 provides additional support for this view.

Test Unit 8 has the highest incidence of burnished sherds (3.1%) and the lowest incidence of Chattahoochee Roughened (27%), suggesting that the most intense occupation there occurred during the Blackmon phase. Recall that uncorrected radiocarbon assays for Structure 1 (TU 8) place it early in the Blackmon phase.

It is particularly difficult to interpret evidence for occupational intensity in TU 3. That unit has intermediate range percentages for shell tempering, burnishing, and Chattahoochee Roughened. One will recall that Block B produced two radiocarbon assays: a terminal date for wall trench Structure 2 of 370 ± 70 B.P. (i.e., Abercrombie phase), and 290 ± 70 B.P. for

Structure 3 (Blackmon phase).

In summary, the relative abundance of temper categories, burnishing, and Chattahoochee Roughened provides a basis for speculations about the intensity of occupation of each area during the Blackmon and Lawson Field phases. Unit 1 appears to have been occupied most intensively during the Lawson Field phase whereas TU 8 was most intensively occupied during Blackmon. Units 3 and 13 are difficult to interpret due to conflicting evidence (in TU 13) and intermediate percentages for all three indicators in TU 3.

Stratigraphic Study

The Blackmon and Lawson Field pottery assemblages differ in both degree and kind (Knight 1994; Mistovich and Knight 1986; Schnell 1990). Differences in degree include the relative abundance of shell vs. nonshell and burnished vs. nonburnished sherds. Differences in kind include the presence of ceramic types in one phase that are absent in the other. These differences provide a basis for expectations about the relative abundance of ceramic types and other categories in the test unit levels.

Under ideal circumstances, one would expect to find Lawson Field artifacts in the upper levels and Blackmon materials in the lower levels. Unfortunately, modern plowing, Native American activities, and the action of plants, animals, looters, and gravity have all contributed to some degree of depositional mixing. Given these factors, the term "intact" stratified deposits should be read as "somewhat intact", meaning that there is still a tendency for older materials to occur at deeper levels.

Assuming that intact stratified deposits are present in the areas investigated, it is expected here that the upper levels will include the following:

a) a relatively small percentage of shell tempered sherds,
b) a relatively large percentage of nonshell tempered sherds,
c) a relatively small percentage of burnished sherds,
d) an absence of the McKee Island Cordmarked and Fortune Noded types,
e) a relatively large percentage of Chattahoochee Roughened (varieties Chattahoochee and Wedowee) sherds

Shell Tempered Sherds

Table 5-2 shows the number and percentage of shell and nonshell tempered sherds in each test unit level. The observed patterns do not conform to the expected decrease in the relative abundance of shell tempering in the upper levels. In TU 1, shell tempered sherds make up from 32 to 40% of the total. Contrary to expectations, levels 1 and 2 have the highest percentages (38 and 40%, respectively) of shell tempering. A similar pattern is seen in TU 3,

where shell tempered sherds represent from 2 to 57% of the total, and the highest percentages of shell occur in levels 1 (57%) and 2 (56%).

Test Unit 13 is a little more difficult to interpret. Shell tempered sherds make up 45% of the total in L 4, 35% in L 3, 56% in L 2, and 43% in L 1. Levels 1 and 2 are both plow zone, so the decreased percentage of shell tempering may or may not be significant. One can only say that there is no strong evidence for the expected decrease in the occurrence of shell tempering in the upper levels.

Test Unit 8 provides some support for the expectation of a decreased percentage of shell tempered sherds in the upper levels. Here shell tempered sherds represent from 4 to 69% of the total, with the highest percentages occurring in levels 4 (69%) and 3 (64%). Only 42% of the L 1 sherds are shell tempered.

It is important to recognize that the cultural deposits in Unit 8 are, in some ways, unlike those of the other three sample units. Unit 8 is located entirely within the basin of Structure 1, a Blackmon phase house constructed in the mid-17th century A.D. The upper levels of TU 8 have been disturbed by modern plowing, but it is assumed that the basin originally extended up to (or nearly to) the present ground surface. Most of the artifacts recovered in TU 8 were probably introduced into the abandoned basin after Structure 1 had been destroyed. If the artifacts in the house basin were deposited over a relatively brief time interval, the ceramic distributional patterns expected to characterize the other three sample units may not apply to TU 8. Those expectations would apply, however, if the Structure 1 basin was filled very gradually.

Nonshell Tempered Sherds

Test Units 1 and 3 both fail to conform to the expected increase in the percentage of nonshell tempered sherds in the upper levels. In TU 1, nonshell tempered sherds represent from 60 to 68% of the total. The two uppermost levels have the lowest percentages (L 1=62%, L 2=60%). The pattern observed in TU 3 is the exact opposite of the expected trend. All of the L 7 sherds are nonshell. In levels 4 through 6 nonshell tempered sherds represent 98 to 94% of the total. Only 55% of the L 3 sherds, and 43% of the sherds in both L 2 and L 1 are nonshell tempered.

The situation in TU 8 is a little problematic. The nonshell percentage in L 7 is 82%. This increases to 96% in L 6, then falls slightly to 91% in L 5. One then sees a reversal of the trend, with the nonshell percentage increasing from 31% in L 4 to 58% in L 1. Were it not for the very high percentages in levels 5 and 6, TU 8 would appear to conform to the expected increased percentage of nonshell tempered sherds in the upper levels.

No clear trend in the relative abundance of nonshell tempered sherds can be detected in TU 13. The nonshell percentage fluctuates from 50% in L 4 to 64% in L 3, drops to 43% in L 2, but increases again to 57% in L 1 (Table 5.2).

Burnished Sherds

Previous researchers have noted a dramatic decrease in the occurrence of burnished surfaces during the Lawson Field phase (Mistovich and Knight 1986). Assuming an intact stratigraphic sequence, it is expected that there will be a decrease in the percentage of burnished sherds in the upper levels. Here the goal is to monitor the percentage occurrence of the burnished surface treatment irregardless of temper. The category designated as burnished in Table 5.2 includes one type and 3 other analytical categories: Lamar Burnished Incised variety Ocmulgee Field, residual burnished plain shell, residual burnished incised shell, and residual burnished plain nonshell; (counts for each category are provided in Table 5-2).

Test Unit 1 appears to conform to the expected decrease in the relative abundance of burnished surfaces. Burnished sherds account for 1.9% of the total in L 5 and 1.3% in L 4. These modest values decrease to .3% in L 3, .2% in L 2, and .5% in L 1. A similar pattern is seen in TU 3. Here the percentage of burnished sherds is 1.3% in L 5, 1.4% in L 4, and 2.9% in L 3, but decreases to 0 in L 2 and .7% in L 1.

Test Unit 8 also displays the expected decrease in the percentage of burnished sherds. Burnished surfaces occur on 4.6% of the sherds in L 5 and 22.2% of those in L 4. The percentage of burnished sherds falls throughout the uppermost three units, from 6.9% in L 3 to 2.6% in L 2, reaching a low of 1% in L 1.

In contrast, TU 13 does not support the expected trend of a decreased incidence of burnished surfaces in upper levels. In that unit, no burnished sherds occur in L 3, whereas 3% of the sherds in L 2 and L 1 are burnished. Note, however, that only 56 sherds were recovered in L 3, so the absence of burnished sherds there may be a result of sample size.

McKee Island Cordmarked and Fortune Noded Types

No sherds assignable to the Fortune Noded type are present in the four sample units. The sample does, however, include 19 McKee Island Cordmarked sherds. Contrary to expectations, nearly all of the McKee Island Cordmarked sherds occur in the upper levels. Of the eight sherds of that type recovered in TU 1, four are from L 1, one is from L 2, and three are from L 4. In TU 3, the nine McKee Island sherds are all from the 3 upper levels. A single sherd of that type from TU 8 was recovered in L 1, and the same situation was encountered in TU 13.

Chattahoocheė Roughened

Chattahoochee Roughened is the ceramic hallmark of the Lawson Field phase, and it is expected to occur in relatively high percentages in the uppermost excavation levels. In Table 5.2, the category designated Chattahoochee Roughened includes the Chattahoochee and Wedowee varieties. Note that the percentage values are calculated using the total number of sherds assigned to formal types, (n=741 for the four units). The various residual categories are not included in the calculations.

No clear pattern is discernable in TU 1. Fifty-five percent of the sherds in L 5 are Chattahoochee Roughened. This falls to 24% in L 4, but then increases to 63% in L 3 and 60% in L 2. In the uppermost level, 55% of the sherds are assigned to this type.

In TU 3, the trend observed is contrary to the expected pattern. In the lowest two levels all three of the sherds assignable to a type are Chattahoochee Roughened. In L 4, 78% of the sherds are Chattahoochee Roughened; (note that n=7). This figure falls to 40% in L 3, 29% in L 2, and 23% in L 1. A similar pattern is seen in TU 8. Here Chattahoochee Roughened make up 33% of the named types in L 6. This figure increases to 80% in L 5, then falls to 29% in L 3, 21% in L 2, and then 28% in the uppermost level.

Test Unit 13 also fails to support the expected trend. Chattahoochee Roughened makes up 67% of the sherds in L 3. This falls to 41% in L 2. The slight recovery to 49% in L 1 does not provide convincing support for conformance with the expected increase in the relative abundance of the type.

Discussion of the Stratigraphic Data

A series of expectations about the vertical distribution of ceramic types and analytical categories has been based on previous studies of the Blackmon and Lawson Field assemblages (Knight 1994; Mistovich and Knight 1986; Schnell 1990) and an assumption that intact, stratified deposits are present in the four sample test units. In a few cases, decisions about whether the observed distributions conform to expectations are somewhat subjective. This reflects the difficulty of deciding what constitutes a significant amount of change in the percentage of occurrence of a type from one level to the next.

The distribution of burnished sherds in TU 1, TU 3, and TU 8 provides some support for the existence of intact stratified deposits. In these three units, the percentage of burnished sherds decreases in the upper levels, as expected. However, only 125 burnished sherds are present, accounting for only 1.8% of the four unit sample. The percentages of occurrence in individual levels are very small, as is the magnitude of change from level to level. The apparent pattern in the occurrence of burnished sherds seems particularly susceptible to the effects of sample size.

The four sample units provide very little evidence for the expected decrease in shell tempering, the corresponding increase in nonshell tempering, an increased occurrence of Chattahoochee Roughened, and a decreased incidence or absence of McKee Island Cordmarked in the uppermost levels. Overall, these findings argue against the presence of intact stratified deposits in the four sample test units.

Summary

The four sample units included in the ceramic analysis produced a total of 7,054 sherds larger than .5 in. As these units comprise 21% of the investigated area, it is estimated that the USACERL excavations recovered about 33,500 sherds.

Virtually all of the pottery recovered in the sample units dates to the Blackmon and Lawson Field phases. No complicated stamp sherds or other sherds suggestive of earlier components were identified. In decreasing order, the dominant types are Chattahoochee Roughened (39%), Lamar Incised (33%), and Walnut Roughened (21%). Minor types include McKee Island (3%), Mission Red Filmed (2%), and Kasita Red Filmed (2%).

Horizontal variation in the percentage occurrence of chronologically sensitive sherds provides some evidence of component patterning. Block A appears to have been occupied most intensively during the Lawson Field phase, whereas Block C was most intensively occupied during the Blackmon phase. The latter finding is compatible with two uncorrected radiocarbon assays indicating that Structure 1 dates to the mid-17th century. Blocks B and D are more problematic, given that chronologically sensitive sherds provide contradictory information.

Finally, the vertical distributions of chronologically sensitive sherds do not provide much support for the presence of intact stratigraphic deposits in the investigated portion of the site.

Table 5-1. Presence and Absence of Types and Analytical Categories in Blackmon and Lawson Field Phases (after Knight 1994:189).

Type-Variety or Category	Blackmon	Lawson Field
Shell tempered plain	Present	Present
Shell tempered burnished plain	Present	Present
Shell tempered incised	Present	Present
Shell tempered burnished incised	Present	Absent
Walnut Roughened, var. McKee Island	Present	Present
Fortune Noded, var. Crow Creek	Present	Absent
McKee Island Cord Marked	Present	Absent
Nonshell tempered plain	Present	Present
Nonshell tempered burnished plain	Present	Present
Chattahoochee Roughened, var. Chattahoochee	Present	Present
Chattahoochee Roughened, var. Wedowee	Absent	Present
Lamar Incised, var. Ocmulgee Fields	Present	Present
Lamar Burnished Incised, var. Ocmulgee Fields	Present	Absent
Mission (Kasita) Red Film	Present	Present
Leon Check Stamped	Present	Absent
Lamar Complicated Stamped	Absent	Present
Lamar Complicated Stamped, var. Curlee	Present	Absent
Toulouse Plain	Absent	Present
Toulouse Incised	Absent	Present

Table 5.2. Occurrence of Individual Ceramic Types and Categories in Unit Levels.

Bk	TU	Lev	1	1.1	1.2	2	3	3.1	4	4.1	5	6	8	Sh Tot	9	9.1	9.2	10	11	11.1	12	12.1	13	14	15	16	NoShTot	Total
A	1	1	116	10	2		7	2	1		9		4	151	168	37	1	1	9	18	3		5	1	4	1	248	399
A	1	2	213	6	4		6	2	1		8		1	241	226	63	1	1	29	12	3		19		1		355	596
A	1	3	107		7		3	1						118	144	52	2		23	10	2		9	1	2	5	250	368
A	1	4	241		13	1	7		2		6	4	3	277	429	13	5	5		8	6		33				499	776
A	1	5	58		3		1	1				4		67	130		1		4	2			3				140	207
A	1	6	8											8	14				1								15	23
A	1	Tot	743	16	29	1	24	6	4		23	8	8	862	1111	165	10	7	66	50	14		69	2	7	6	1507	2369
B	3	1	198	3	6	1	6	1	3		15	2	5	240	140	15	1		8	1	1		17			1	184	424
B	3	2	273	2	5		21	1		1	25		1	329	219	12	1		10	2		1	5		1	2	253	582
B	3	3	166		8	8	14	2	1		13	3	3	218	222	7	2	2	19	4			13	1			270	488
B	3	4	10				1					1		12	191	3	2	2	7				1				206	218
B	3	5	1			1								2	77				1								78	80
B	3	6	1											1	26	2			2								30	31
B	3	7												0	3	1											4	4
B	3	Tot	649	5	19	10	42	4	4	1	53	6	9	802	878	40	6	4	47	7	1	1	36	1	1	3	1025	1827
C	8	1	427	5	19	6	30	2	5		28	1	1	524	535	47	11	2	28	14	4	1	69	3	5	7	726	1250
C	8	2	98		4	2	10		1		9			124	75	4	2	2	7				14	2			106	230
C	8	3	68		2	3	7		1		10	2		93	38	1		4	2	3			3	1			52	145
C	8	4	50	2	3	15			2		1	2		75	20	1		7					5				33	108
C	8	5	8			4						1		13	126	5		2	4				1				138	151
C	8	6	2											2	51				1				2				54	56
C	8	7	1			1					1			3	14												14	17
C	8	Tot	654	7	28	31	47	2	9		49	6	1	834	859	58	13	17	42	17	4	1	94	6	5	7	1123	1957
D	13	1	119		6	3					6	1	1	136	113	17	5	3	10	8	2		16	3		1	178	314
D	13	2	257		13	7	8		2		8	2		297	164	21	2	4	12	4	3	1	15	3	1		230	527
D	13	3	19				1							20	33	1			2								36	56
D	13	4	2											2	2												2	4
D	13	Tot	397		19	10	9		2		14	3	1	455	312	39	7	7	24	12	5	1	31	6	1	1	446	901
Total			2443	28	95	52	122	12	19	1	139	23	19	2953	3160	302	36	35	179	86	24	3	230	15	14	17	4101	7054

Notes: 1=residual plain shell not burnished; 1.1=same as 1 with washed surface; 1.2=same as 1.1 applique strip; 2=resid. plain shell burnish.; 3=Walnut Roughened; 3.1=same as 3 with wash. surf.; 4=Wal. Rough. var. Span. Fort; 4.1=same as 4 with wash. surf.; 5=resid. shell incised; 6=resid. shell burn. incised; 8=McKee Is. Cordmk.; 9=resid. plain nonshell; 9.1=same as 9 with wash. surf.; 9.2=same as 9.1 applique strip only; 10=resid. nonshell plain burnish.; 11=Chatt. Rough. var. Chatt.; 11.1=same as 11 with wash. surf.; 12=Chatt. Rough. var. Wedowee; 12.1=same as 12 with wash. surf.; 13=Lamar Incised var. Ocmul. Field; 14=same as 13 burnish.; 15=Mission Red Film; 16=Kasita Red Film.

Table 5.3. Occurrence of Ceramic Types in Unit Levels.

TU	Lev	Shell	Shell	Noshell	Noshell	Total	Burn	Burn	Wal Ro	Wal Ro	McK Is	McK Is	Ch Ro	Ch Ro	Lamar	Lamar	Mis Rd	Mis Rd	Ks Rd	Ks Rd	Total Ty
		N	%	N	%	N	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N
1	1	151	0.38	248	0.62	399	2	0.005	10	0.18	4	0.07	30	0.55	6	0.11	4	0.07	1	0.02	55
1	2	241	0.40	355	0.60	596	1	0.002	9	0.12	1	0.01	44	0.6	19	0.26	1	0.01			74
1	3	118	0.32	250	0.68	368	1	0.003	4	0.07			35	0.63	10	0.18	2	0.04	5	0.09	56
1	4	277	0.36	499	0.64	776	10	0.013	9	0.15	3	0.05	14	0.24	33	0.56					59
1	5	67	0.32	140	0.68	207	4	0.019	2	0.18			6	0.55	3	0.27					11
1	6	8	0.34	15	0.65	23							1	1							
1	Total	862	0.36	1507	0.64	2369	18	0.008	34	0.13	8	0.03	130	0.51	71	0.28	7	0.03	6	0.02	256
3	1	240	0.57	184	0.43	424	3	0.007	10	0.23	5	0.12	10	0.23	17	0.4			1	0.02	43
3	2	329	0.56	253	0.43	582			23	0.51	1	0.02	13	0.29	5	0.11	1	0.02	2	0.04	45
3	3	218	0.45	270	0.55	488	14	0.029	17	0.3	3	0.05	23	0.4	14	0.25					57
3	4	12	0.06	206	0.94	218	3	0.014	1	0.11			7	0.78	1	0.11					9
3	5	2	0.02	78	0.98	80	1	0.013					1	1							1
3	6	1	0.03	30	0.97	31							2	1							2
3	7			4	1.00	4															
3	Total	802	0.44	1025	0.56	1827	21	0.012	51	0.32	9	0.06	56	0.36	37	0.24	1	0.01	3	0.02	157
8	1	524	0.42	726	0.58	1250	12	0.01	37	0.22	1	0.01	47	0.28	72	0.43	5	0.03	7	0.04	169
8	2	124	0.54	106	0.46	230	6	0.026	11	0.32			7	0.21	16	0.47					34
8	3	93	0.64	52	0.36	145	10	0.069	8	0.47			5	0.29	4	0.24					17
8	4	75	0.69	33	0.31	108	24	0.222	2	0.29					5	0.71					7
8	5	13	0.09	138	0.91	151	7	0.046					4	0.8	1	0.2					5
8	6	2	0.04	54	0.96	56							1	0.33	2	0.67					3
8	7	3	0.17	14	0.82	17	1	0.059													
8	Total	834	0.43	1123	0.57	1957	60	0.031	58	0.25	1	0.004	64	0.27	100	0.43	5	0.02	7	0.03	235
13	1	136	0.43	178	0.57	314	10	0.032			1	0.02	20	0.49	19	0.46			1	0.02	41
13	2	297	0.56	230	0.43	527	16	0.03	10	0.2			20	0.41	18	0.37	1	0.02			49
13	3	20	0.35	36	0.64	56			1	0.33			2	0.67							3
13	4	2	0.45	2	0.50	4															
13	Total	455	0.50	451	0.50	906	26	0.029	11	0.12	1	0.01	42	0.45	37	0.4	1	0.01	1	0.01	93
	Total	2953	0.42	4107	0.58	7060	125	0.018	154	0.21	19	0.03	292	0.39	245	0.33	14	0.02	17	0.02	741

Note: Shell=Shell tempered; Noshell=Nonshell tempered; Burn=Burned sherds; Wal Ro=Walnut Roughened; McKe Is=McKee Island; Ch Ro=Chattahoochee Roughened; Lamar=Lamar Incised; Mis Rd=Mission Red; Ks Rd=Kasita Red; Total Ty=Total of named types.

Figure 5-1. Classification Key for Extant Ceramic Types, Varieties, and Analytical Categories (After Knight and Mistovich 1984)

TEMP TYPE	PRIMARY SURF	SECONDARY SURF	#	NAME
SHELL	PLAIN	NO BURN	1	Residual Plain, Shell
"		BURN	2	Residual Burnish Plain, Shell
"	ROUGHENED	BRUSHED	3	Walnut Roughened var. McKee Island
"	COB MARKED		4	Walnut Roughened var. Spanish Fort
"	INCISED	NO BURN	5	Residual Incised, Shell
"		BURN	6	Residual Burnish Incised, Shell
"	NODED	(ANY)	7	Fortune Noded var. Crow Creek
"	CORD MARKED		8	McKee Island Cord marked
NON-SHELL	PLAIN	NO BURNISH	9	Residual Plain, Nonshell
"		BURN	10	Residual Burnished Plain, Nonshell
"	ROUGH	BRUSHED	11	Chattahoochee Roughened var. Chattahoochee
"	COB MARK		12	Chattahoochee Roughened var. Wedowee
"	INCISED	NO BURNISH	13	Lamar Incised var. Ocmulgee Fields
"	BURN		14	Lamar Burnished Incised var. Ocmulgee Fields
"	PAINTED	RED FILMED REDUCED SURF	15	Mission Red Filmed var. Unspecified
"	PAINTED	RED FILMED OXIDIZED SURF	16	Kasita Red Filmed var. Unspecified
"	STAMPED	CHECK STAMPED	17	Leon Check Stamped var. Unspecified
"		COMPLICATED STAMP	18	Lamar Complicated Stamped var. Curlee
NO TEMP	PLAIN	NONE	19	Toulouse Plain var. Unspecified
"	INCISED	NONE	20	Toulouse Incised var. Unspecified

Figure 5-2. Form Used in Typological Analysis of Yuchi Town Pottery.

Yuchi Town Site (1Ru63), 1994-1995 USACERL Excavations

BAG __________ ANALYST __________
UNIT __________ DATE __________
LEVEL __________ FEATURE __________
OTHER __________
WEIGHT __________ (total weight of **all sherds**; do not include daub, non sherd fired clay)
WEIGHT __________ (total weight **daub and non-sherd burned clay only**)
RIMS __________ (number of rims; sort into types, then hold out rims for later analysis)

Record below the **number** of sherds (rims and bods) assigned to each type or group:

Type No.	**Count**	**Type Name**	**Description**
0	______	(shell temper, surface indeterminate)	
1	______	residual plain, shell	shell, plain, not burnished
2	______	residual burnished plain, shell	shell, plain, burnished
3	______	Walnut Roughened, var. McKee Island	shell, rough., brushed
4	______	Walnut Roughened, var. Spanish Fort	shell, rough., corncob
5	______	Residual Incised, shell	shell, incised, not burnished
6	______	Residual Burnished Incised, shell	shell, incised, burnished
7	______	Fortune Noded, var. Crow Creek	shell, noded
8	______	McKee Island Cord marked	shell, cord marked
9	______	Residual Plain, non-shell	non-shell, plain, not burnished
10	______	Redisual Burnished Plain, non-shell	non-shell, plain, burnished
11	______	Chattahoochee Roughened, var. Chatt.	non-shell, rough., brushed
12	______	Chattahoochee Roughened, var. Wedowee	non-shell, rough., corncob
13	______	Lamar Incised, var. Ocmulgee Fields	non-shell, incised, not burnished
14	______	Lamar Burnished Incised, var. Ocmul. Field	non-shell, incised, burnish
15	______	Mission Red Filmed, var. Unspecified	non-shell, red, reduced
16	______	Kasita Red Filmed, var. Unspecified	non-shell, red, oxidized
17	______	Leon Check Stamped var. Unspecified	non-shell, stamped, check
18	______	Lamar Complicated Stamped var. Curlee	non-shell, stamp, complicate
19	______	Toulouse Plain var. Unspecified	NO TEMPER, plain
20	______	Toulouse Incised var. Unspecified	NO TEMPER, incised
21	______	(non-shell temper, surface indeterminate)	
22	______	daub (must have twig or stick impressions)	
23	______	non-sherd burned clay (irregular lumps)	
24	______	Non-shell, plain, applique, not burnished	
25	______	Non-shell, plain, applique, burnished	
26	______	Non-shell, unusual decoration (HOLD OUT)	
27	______	Shell, plain, applique, not burnished	
28	______	Shell, plain, applique, burnished	
29	______	Shell, unusual decoration (HOLD OUT)	

Describe any non-vessel objects or very unusual sherds.

Chapter 6
Lithic Analysis

Charles R. McGimsey

This chapter reports the analysis of a selected portion of the lithic material, including modified and unmodified objects, recovered during the 1994-1995 USACERL excavations at Yuchi Town. The discussion focuses on a description and characterization of the chipped-stone industry, but also provides information for assessing the stratigraphic and organizational structure of the cultural deposits. The analyzed sample includes lithic items from nine 2 by 2 m units (Block A - TU's 1, 2, 5; Block B - TU's 3, 4; Block C - TU's 8, 22; Block D - TU's 13, 14). In addition, field-segregated artifacts (only retouched items) from the remaining units are briefly discussed.

Analysis Methods

During the laboratory processing, the field samples were screened through .5 in (1.3 cm) mesh and analysis is limited to examination of the larger size class. After screening, the materials larger than .5 in were sorted into chert (debitage and modified items) and non-chert (mostly pebbles and gravels) categories. These assemblages were initially analyzed using the attributes defined in Figure 6-1. Items misidentified during the preliminary sort were placed in their appropriate category. This inventory (Tables 6-1 and 6-2) provides the basic information for characterizing the chipped stone industry and examining the horizontal and vertical distribution of artifacts.

A more detailed, attribute-level analysis of the retouched pieces and complete flakes was undertaken. The attributes included in the study are defined in Figure 6-2. Detailed descriptions of the chipped-stone industry, including raw material procurement, manufacture, use, and discard, are derived from these data. The raw material classes are initially developed on the basis of the material types present in the collection. These classes are correlated with known regional raw material sources in the procurement discussion.

Lithic Technology

Procurement

A diverse assemblage of raw materials is present in the Yuchi Town assemblage (Table 6-3). The majority are non-chert items (87.8% by count, 96.3% by weight), with quartzite, sandstone, and indeterminate items representing the bulk of the assemblage. Indeterminate materials are unbroken pebbles and cobbles where the raw material type could not be clearly

determined but nearly all appear to be quartzite. Other non-chert materials appear infrequently and comprise only a small proportion of the assemblage. Chert represents only a small portion (12.2% by count, 3.7% by weight) of the total lithic assemblage.

The majority of the non-chert items do not exhibit evidence of human use and may represent natural inclusions in the sediment at the site. All but four of the unbroken items (indeterminate raw material class) are pebbles less than 6.4 cm in size, and nearly all of the quartzite class represent fragments of pebbles or cobbles, primarily the former. Some of the broken items have water-worn edges, suggesting breakage prior to deposition at the site.

Sixteen clearly modified quartzite artifacts are present, indicating these materials were occasionally used by the inhabitants. Ten are flakes or retouched pieces, while five are pebbles/cobbles with battering on one or more corners. The overall small size of the available quartzite pieces (only four unaltered and one modified piece greater than 6 cm in size are present) may be a limiting factor in its selection for tool production. The procurement of these materials for use in other activities cannot be assessed. Nearly one-third of the quartzite and all of the sandstone items are broken, potentially due to thermal fracturing, but evidence suggestive of their use in hearths or other cooking facilities was not recovered. The occurrence of water-worn broken edges on some specimens indicates not all broken items can be ascribed to human-induced thermal fracture.

The majority of these materials are available at or near the site. Quartzite pebbles and cobbles are constituents of the Cretaceous-age Tuscaloosa formation that outcrops extensively along Upatoi Creek 10 km upstream from Yuchi (Elliott et al. 1994:7; Gresham et al. 1985:11, Fig. 3). The majority of these naturally-occurring items are less than 6.4 cm in size (Gresham et al. 1985:Table 1). These pebbles are found in creek gravel bars (ibid:12) and many sections of Chattahoochee River alluvium (Elliott et al. 1994:7); their presence at Yuchi could easily be the result of natural fluvial processes depositing these items across this landform.

Sandstone is also a constituent of the Tuscaloosa formation, outcrops in Upatoi Creek (Gresham et al. 1985:11), and can be a natural inclusion in the site alluvium. Fossilized wood is also found in Upatoi Creek gravel bars although its source is unknown (ibid:12). Igneous materials (biotite gneiss and granitic gneiss) occur in Piedmont crystalline rock formations 20-25 km north-northeast of the site (ibid:Fig. 3) and could be present in stream and Chattahoochee River gravel bars.

All of the non-chert raw materials outcrop upstream of the Yuchi site and many are found in modern gravel bars of tributary streams. Consequently, they are likely constituents of river gravel bars and smaller items may have been deposited in alluvial settings during flood episodes. These materials may have been acquired at the site location but if they were not available in floodplain settings, they were available within 20 km of the site.

All but one of the chert pieces are flaked, indicating selection and use for tool production. The one unmodified item is a broken piece of chert that does not exhibit any flake scars but whether the fractures reflect human or natural causes cannot be determined. The absence of unmodified pieces indicates chert does not occur naturally in the sediments comprising the site and was procured elsewhere.

Six chert types are identified in the analysis on the basis of color (Table 6-3). One, the dark grey, occasionally translucent chert, occurs only as gunflints and represents French or English flint (Hamilton 1987; Woodward 1982); (gunflints are discussed in Chapter 7). A honey-colored material is the primary chert type (50.2%) with miscellaneous "Other" cherts representing 30.6%. The red chert and dark honey with red-brown lines are separated in this analysis but may represent variation within the honey chert type; if so, the honey material represents up to 62.2% of the assemblage. Many of the red cherts may represent heat-treated honey colored chert but this could not be ascertained on the basis of texture or lustre. At least some of the red cherts are distinctive materials and not altered pieces of honey chert.

Honey-colored cherts may be present in the Paleocene Clayton formation 30-40 km southeast of the site. Chert from this deposit is described as yellowish to brown in color, with a glossy luster, and occurring as small nodules (Goad 1979), but little information is available on its availability and knappability (Gresham et al. 1985:17). The small size (see below) and weathered cortex of the Yuchi Town honey-chert artifacts suggest they are derived from this residual sand deposit. The absence of a detailed description of this source makes it impossible to determine whether the red-stripped honey chert and the red chert are variants of this source.

The red chert could be representative of a fine-grained cataclastic rock locally available in the Tuscaloosa formation gravels of Upatoi Creek (Gresham et al. 1985:12, 16) but this cannot be determined at this time. The white chert class appears to represent a single source as there is relatively little variation in color, texture, and appearance among the collected specimens. The Other chert class contains a diversity of materials that cannot be clearly placed into one of the other classes. Many of its members are dark colored but do not appear to represent a single material type. Located 70-80 km south and southeast of the site, the Eocene Ocala limestone contains numerous nodules and blocks of chert in varying colors, textures, and density. These materials are often found in the Flint River 80 km east-southeast of the site. East of the Flint River lies Loigocene cherts of varying colors and textures. Both of these sources were exploited throughout much of prehistory (Gresham et al. 1985:17). The white and other cherts may be derived from either of these source areas, or from a presently unknown source.

The size of the available raw material can only be approximated. The largest chert retouched artifact is only 5.1 cm in length and 21.6% of the chert retouched artifacts exhibit cortex. The largest compete flake is 5.5 cm in length. Regardless of chert type, no artifact

larger than 6.0 cm is present in the assemblage, and many finished items exhibit cortex, suggesting the available raw material occurs only in small sizes. There may be some size variation between raw materials however. Other chert complete flakes average consistently larger than honey chert flakes (other primary flakes average 2.97 cm versus 2.36 cm for the honey-colored; other secondary flakes average 2.61 cm versus 2.14 cm for the honey-colored; and other tertiary flakes average 2.42 cm versus 2.07 cm for the honey-colored). It is possible that these differences simply reflect the small sample sizes for each type and raw material.

Procurement of chert for use resulted in the selection of primarily high quality materials (Table 6-4). Fine textured materials comprise the majority of the assemblage (90.3%), and pieces exhibiting fine with medium or coarse texture represent an additional 8.1%. Bedding planes and inclusions are rare, occurring in two and four specimens respectively.

Acquisition of lithic materials by the site inhabitants was limited and apparently primarily restricted to the closest available sources. Very few pieces of any material larger than six cm are present, suggesting raw material availability, accessibility, and/or size was restricted. Non-chert materials, primarily quartzite pebbles, are infrequently used in tool production or as tools. Many of the pebbles may have served in activities leaving no trace on the objects but these items were not recovered in contexts indicative of use. Chert materials are similarly limited, both in quantity and diversity. At least four different chert types are present, but available evidence indicates these cherts occur naturally in pieces less than six cm in size. Selection of chert also reflects quality considerations, as the majority of specimens are made of very high quality chert (fine texture with few bedding planes or inclusions).

Manufacture

A total of 290 flakes, including 8 quartzite and 282 chert specimens, was collected. All complete chert specimens (n=124) are included in the detailed debitage analysis. The quartzite examples are not included because the coarse grains result in very poorly defined flake characteristics and it was found to be nearly impossible to record most of the attributes.

Examination of cortex by raw material (Table 6-5) indicates a generally consistent pattern of reduction. Sample sizes for the red, dark honey, and white cherts are too small to evaluate but the honey chert and other chert classes exhibit nearly identical patterns. Flakes without cortex represent 46.0% of the total assemblage and 49-50% of the honey and other chert classes. The relatively high proportion of flakes with cortex probably reflects the laboratory screening of the assemblage at .5 in. The average width of all chert retouched artifacts is 1.7 cm (maximum = 3.6) and the most common morphofunctional class (points, comprising 41.1% of the assemblage) average 1.4 cm in width. This indicates that many, if not most, flakes produced during the latter stages of manufacture will be small, generally less than 1.0 cm, and these items were not captured by the laboratory screening. The relative paucity of

flakes without cortex probably reflects a bias in the assemblage due to field and laboratory screen sizes. Despite this bias, it is clear that unaltered pieces of every raw material are being brought to the site and reduced. Consequently, the following discussion of debitage organizes the data into flake types (primary: 51-100% cortex, secondary: 1-50% cortex tertiary: 0% cortex [see Figure 6-1]), and lumps the raw materials to minimize sample size problems.

Metric attributes in the debitage sample indicate that size and weight decrease through the reduction sequence (Table 6-6). Flakes are small but are nearly as wide as long. This may reflect raw material size as the pieces being reduced may have been too small to produce long flakes. It may also reflect the technique of production. In each class, the flake platforms are unusually broad, covering nearly half of the flake width, suggesting use of a wide hammer that resulted, intentionally or unintentionally, in the production of short, broad flakes. The only hammerstones recovered are made of quartzite and exhibit broad, gently rounded areas of battering but are not necessarily the percussion objects used.

Although platforms are large, other platform characteristics exhibit expected trends (Table 6-4). The proportion of platforms exhibiting multiple facets increases through the reduction sequence, although their relatively low frequency in the tertiary class may reflect the size bias noted above. Multifaceted platforms occur most frequently in the latter stages of biface/uniface production and these flakes probably were not captured by the .5 in mesh screening. The frequency of plain and cortex-covered platforms in the tertiary class suggests many flakes reflect core reduction rather than bifacial tool production. Platform preparation, grinding, and lipping all increase through the reduction sequence but never appear on a majority of flakes.

Very few of the flakes exhibit clear evidence of heat-treatment. Five of the eight specimens coded as exhibiting heat-alteration exhibit fire-cracked edges, suggestive of post-production damage. The low frequency of heat-alteration may reflect the overall high quality of the raw material for which improvement of flaking quality was not necessary.

These data generally follow the patterns expected if the primary strategy was the bifacial reduction of raw material to produce tools. There is no evidence of a bipolar technology although small cobbles appear to have been the principal chert resource. Platform type and size however, suggest the production of flakes from cores occurred frequently. Two cores were collected and some retouched artifacts are made on flakes, and these, together with the abundance of use-wear on flakes (see Use below), suggest the existence of a flake-core technology. Given the small size of the available raw material, the traditional approach of reducing a single piece to produce a bifacially retouched tool may not have been the primary strategy. An alternative technology would produce flakes from the pebble cores (accounting for the core-flake data) and then modify these flakes into the small, extensively retouched points and bifaces seen in this collection. Their degree of modification obscures their origin and produces the debitage assemblage indicative of bifacial reduction. Sorting out the precise

strategy or mix of strategies used to produce the artifacts at Yuchi is difficult, particularly given the size bias in the available assemblage. Further evaluation of production technologies and strategies will require examination of the smaller flakes collected at the site to assess their production characteristics.

Morphofunctional Classes

Ninety retouched artifacts are present in the assemblage (Table 6-7). In this section, the artifacts are briefly described by morphofunctional class.

Projectile Points

All but one of the points are identified as Guntersville (Cambron and Hulse 1964:59; Perino 1985:160) or variants thereof. This type is associated with late prehistoric components in the Southeast and may continue into the historic period (Cambron and Hulse 1964). Many specimens could also be considered Mississippian-period Madison or Pinellas variants (Gresham et al. 1985: Fig. 26; Justice 1987). These names all refer to small triangular points with generally squared bases and straight to slightly excurvate blade margins. Twenty-seven specimens from this assemblage are classic examples of the type (Plate 6-1). None exhibit any basal grinding or evidence of base/side notches, nor do any appear to have been resharpened. Five additional items (e.g., Plate 6-2 c, d, e) exhibit incurvate bases (similar to Nodena cluster types) and many have incurvate blade margins, the latter probably due to resharpening. Two additional artifacts (Plate 6-2 h, j) are thicker and less well-made than the previous specimens but do not differ in overall shape from the smaller, finer examples. The final two specimens (Plate 6-2 a, b) are much smaller than the other points but exhibit the same triangular shape. One of these (a) is manufactured from crystalline quartz.

The remaining point (Plate 6-2 i) is morphologically similar to an Early Archaic Bolen Plain specimen illustrated by Gresham et al. (1985:Fig. 23:A) and to illustrated variants of Early Archaic Kirk Corner-notched (Justice 1987:74-75). It has a slightly rounded base with deep corner-notches and straight to slightly excurvate blade margins. The base and notches are not ground and the blade appears to have been resharpened.

Bifaces

Eight items included in this class may represent fragments of points, primarily distal ends, but cannot be assigned to that class due to their size and breakage. The remaining 11 chert specimens are thicker, generally irregular in shape and exhibit a diversity of retouch that rarely covers the entire item (Plate 6-3). Although most are broken, their overall size is small and differs little from the average size of the points. This is not true for the remaining three bifaces, two made of quartzite and one of sandstone. One quartzite specimen is a broken pebble/cobble whose broken edge has been roughly flaked (Plate 6-4 c). The second example

is a biface tip made of very fine-grain quartzite exhibiting extensive and systematic flaking along both margins (Plate 6-4 b). The last artifact is a large, flat, oblong, relatively fine-grained sandstone cobble whose two long sides exhibit large flake scars (Plate 6-4 a).

Retouched Pieces

This category includes those retouched artifacts that cannot be assigned to a specific morphofunctional class. They represent a wide variety of shapes and sizes and most exhibit only minimal retouch (Table 6-7 and Plate 6-5). Although many of the pieces are broken, in most instances the retouched area is not broken, suggesting that they represent the expedient use of available pieces.

Unifaces

Two are present, one of chert and one of quartzite. The chert specimen is a small, thick piece that is broken across the retouched edge, indicating it is only a fragment of a larger artifact. The quartzite specimen is a fragment of a cobble/pebble exhibiting small flake scars along its two long edges. One of the edges is worn smooth.

Cores

One core is a fragment of a chert cobble/pebble less than four cm in length with three platforms and one or two flakes per platform. The other specimen is a flake with one lateral margin used as a platform to produce additional flakes. This flake may have been removed from a blade core, based upon its dorsal scars. Two additional possible blades were observed in the debitage study, suggesting a blade core technology may have been used, albeit infrequently, at the site.

Miscellaneous Artifacts

One scraper made on a biface is present. The scraping edge occurs along the rounded base and is worn. A drill bit is present on a small heat-fractured piece of chert. The bit exhibits minimal retouch and may represent the use of a fortuitous break. A triangular-shaped flake with slight battering at the thick, narrow proximal end and flaking/crushing of the thin, broad distal end is identified as a wedge.

Gunflints

Nine gunflints were found; these are discussed along with other historic artifacts in Chapter 7.

Hammerstones

Five quartzite pebble/cobbles exhibiting slight to moderate battering along one or more edges/corners were identified (Plate 6-6). All are broken and their original size cannot be determined.

The retouched artifact assemblage includes a diversity of morphofunctional types and technological classes, although a few classes represent the majority in each classification scheme. Bifaces, points, and retouched pieces comprise 86.7% of the morphofunctional assemblage, while items exhibiting bifacial surficial/unifacial edge retouch, bifacial surficial/no edge retouch, and unifacial edge retouch only represent 56.7% of the technologically classified assemblage. Morphofunctional classes exhibit various degrees of modification, as bifaces and retouched pieces occur in six technological classes, while points are found in nine classes (Table 6-7). This indicates that there is not a consistent production strategy for any given morphofunctional class, rather, any given piece was modified to the extent necessary to produce the desired object. The majority of artifacts are surficially retouched (80.0%), but only the points consistently exhibit extensive retouch across both faces. The minimal surficial retouch of most other pieces, together with the relatively low frequency of edge retouch on surficially modified specimens (59.4%), suggests there was not an emphasis upon the production and use of formal, curatable tools. In addition, the absence of larger tools that could be resharpened and/or rejuvenated after breakage, and the emphasis on producing items that are too small to be reworked after breakage, suggests this assemblage has a generally expedient character. This approach may also reflect the small size of the available raw materials whereby larger, longer-lived tools could not be produced.

This expedient production strategy included all raw materials (Tables 6-8 and 6-9). Those morphofunctional and technological classes represented by more than five examples occur in most raw material types. The absence of quartzite artifacts from the edge retouch only classes is probably due to the difficulty of identifying small flake retouch on these coarse-grained materials.

Heat-treatment is identified for only 6.7% of the assemblage (Table 6-10) and is not concentrated in any one class. The low frequency may reflect the high quality of the raw material which does not require heat-treatment to improve its knappability. The heat-fractured items all exhibit post-manufacture crazing and potlidding, and it is possible that the heat-treated items also represent post-manufacture alteration.

Field-sorted Artifacts from Other Proveniences

Examination of the collection of retouched artifacts field-sorted from the remaining excavation units at the site yields a similar assemblage (Tables 6-11 and 6-12). The majority of items are points, with six of the bifaces possibly representing point fragments. Twenty-one

points are classified as the late prehistoric to historic period Guntersville type. One specimen is a Tallahassee point (Gresham et al. 1985:Figs. 27, 28). It exhibits a serrated blade and very light grinding on the basal lateral margins. Gresham et al. present an argument for this style being Early Archaic in age (ibid:148-149) but indicate it may also date to the Woodland period. A second item is heat-fractured along one margin but exhibits a straight-sided, contracting stem with a concave base. One face exhibits a large basal thinning flake but the other face is not basally thinned. Grinding is absent. This specimen bears some similarities to late Paleo style points but cannot be comfortably included with any of those types. It's cultural/temporal affiliation is unknown. The last point is also heat-fractured and much of the base is missing. It appears to be a side-notched base with the one notch and ear exhibiting distinct grinding. Unifacial beveling is present along both blade margins. The raw material is a very deep red color and the surface appears to be patinated, with more recent potlids revealing fresher surfaces. The style is clearly Early or Middle Archaic in age but it cannot be confidently ascribed to a specific type.

The bifaces are similar to those described earlier and exhibit the same size range. The scraper is a tear-drop shaped thumbnail scraper made on a flake whose dorsal surface is completely modified. The drill is a complete specimen 3.9 cm long, 0.8 cm wide, and square in cross-section. The gunflints are gunspalls as defined above, made of a light to dark grey French or English flint and represent the squared, proximal ends of flakes with crushed, flaked edges on all margins. The two quartzite bifaces also exhibit battering on one or more corners or edges. One specimen is a large cobble whose broken edge has been roughly flaked; a small area of battering is present on an unbroken corner. The other example is a flat, generally square cobble with flaking along three of the four edges. All of the flaked edges are also battered. The fourth edge is broken and unmodified. A final artifact (not listed in Tables 11 and 12) is identified only as a shaped piece. It is a thin (5-8 mm thick), flat, highly smoothed piece of very fine-grained sandstone or quartzite. Square in shape, it exhibits light battering on three corners and three edges are clearly ground to form edges perpendicular to the flat surfaces. The remaining edge may also be shaped. Under 10X magnification, numerous fine striations can be observed on both faces with polished areas also present. The purpose/function of this artifact is unknown.

Consideration of these additional artifacts supports the observations made above. Although conclusions are limited by the obvious bias in this field-segregated assemblage (the absence of edge-retouch only specimens, for example), it is dominated by points and bifaces. Many of the latter are broken items that may be point fragments. All members of this assemblage are surficially retouched but only 55.6% also exhibit edge retouch. Nearly all artifacts are made of high quality chert and few exhibit evidence of heat-treatment. Raw materials used are the same as described above and are employed in nearly identical proportions.

Use

Evaluation of use is limited to consideration of two attributes, macroscopic evidence of edge damage on flakes, and evidence of reworking/resharpening on retouched pieces. Edges on all complete flakes were examined with a 10X hand lens, and systematic flaking and/or crushing of the edge recorded as utilization. Just over 40% of the flakes exhibit this type of edge damage (Table 6-13) with the frequency increasing through the reduction sequence. The frequency of edge damage is dependent upon flake size. About one-third (32.8%) of the flakes 1.0-2.0 cm in length exhibit wear, while 49.0% of flakes 2.0-3.0 cm in length exhibit wear, and 55.6% of the flakes greater than 3.0 cm exhibit this damage. This level of examination can only observe some types of wear, so the resulting frequencies do not reflect the entire intensity of use, but the data do indicate unretouched artifacts were frequently used as tools and that the probability of use manifest as macroscopic damage is directly related to size. The reduction data also suggest a preference for flakes with thinner, more acute edges to be used for activities resulting in this type of edge damage.

Use-wear is not discernable on retouched artifacts at this level of examination. An alternative measure of use for these items is the frequency of resharpening along previously retouched edges. A majority (58.3%) of the surficially retouched artifacts exhibit edge retouch. This edge retouch may represent manufacture (final edge trimming) or resharpening. There is little evidence for systematic edge retouch along entire artifact margins and most examples are localized, suggesting it reflects manufacturing processes. Four artifacts, three points and one biface, are identified as being resharpened on the basis of extensive edge retouch along the blade margin, and in most cases incurvate blade margins. There are no examples of broken artifacts being reworked into another tool. This may reflect the degree to which broken artifacts are recycled or indicate broken items are generally too small to be reused. Given the small size of the original item in most cases (average of 2.6 cm), and with broken items averaging only 2.20 cm in length, the latter interpretation is the most plausible.

Discard

Discard is not an issue for debitage but can be considered for the retouched artifacts. The majority of artifacts found are complete (Table 6-14) but this varies considerably by class. Bifaces and retouched pieces occur primarily as broken items, but points are predominantly whole. The inclusion of broken points in the biface class may account for some of this difference. If the eight possible broken points in the biface class are included as points in this calculation, then 42.2% of the points are broken as are 64.3% of the bifaces. This still indicates bifaces are more likely to be discarded broken than are points. Both types however, exhibit similar breakage patterns as transverse breaks dominate (90.9% of the broken points and 64.7% of the bifaces). The remaining broken point has an oblique fracture and the remaining bifaces exhibit parallel (11.8%), oblique (17.6%), and multiple fractures (5.9%). The smaller and thinner size of the points may mitigate against their being reused in other

activities and they may not have been curated as extensively as bifaces. The high frequency of breakage among the retouched piece class reflects the catchall character of this class, which includes primarily small broken items not identifiable as a more specific class.

Discussion

A diverse assemblage of lithic materials is present at the Yuchi Town site. Most are unmodified pebbles/cobbles or fragments thereof. These materials may be natural inclusions in the sediment and thus may not reflect prehistoric activity. A small modified artifact assemblage (n=444) was collected. Fifty-seven of the 61 temporally diagnostic artifacts recovered from all excavation units indicate an occupation after A.D. 950-1050 and potentially extending into the historic period. Three of the remaining points are morphologically similar to late Paleo or Early Archaic styles but two are broken and their temporal assignment can be questioned. Neither can be assigned to the historic or immediately preceding period, however. The last specimen is not assignable to a specific type but dates to the Early to Middle Archaic period, based upon its overall morphology and characteristics. The presence of these older point styles may indicate this land surface was occupied occasionally over the last 10-12,000 years. However, the geomorphology and soil development observed at the site do not support this age. Alternatively, these items may have been collected elsewhere and redeposited here during the late prehistoric to historic occupation(s). The scarcity of chert in the vicinity of the site may have resulted in scavenging of usable lithic materials from older sites in the region.

Procurement of raw materials by the site inhabitants emphasized the nearest available sources. Nearly all of the non-chert materials outcrop in upstream creek drainages within 20-30 km of the site. Deposits containing quartzite and sandstone outcrop along Upatoi Creek and occur naturally in Chattahoochee River alluvium. All of these non-chert materials may have been available in alluvial exposures and gravel bars at or near the site or could have been acquired from the local bedrock sources.

Several different chert types are present, but the assemblage is dominated by a high-quality yellow-brown, honey-colored chert. The majority of flakes and retouched artifacts are made of this material. Artifact size and the frequency of cortex on flakes and finished pieces indicates the raw material was only available as small (perhaps averaging six cm in size) water-worn pebbles or cobbles. This material could have been obtained from sources 30-40 km southeast of the site. The sources of the remaining non-European cherts are less certain but are probably derived from abundant sources along the Flint River 80-90 km east-southeast of the site.

Regardless of their source, the quality of all raw materials is uniformly high. Whether this represents selection by the inhabitants from a diverse resource base, or simply what was available, is unknown. Selection for high quality material could have been one factor resulting

in the small size of the raw material pieces used at the site.

Whatever natural or cultural selection process was operating, all of the raw materials were brought to the site in an unaltered or minimally altered condition. All reduction stages are present in the debitage but the relative frequency of each stage cannot be evaluated due to the field and laboratory-introduced size bias in the assemblage that excludes most small tertiary flakes from the sample. The debitage assemblage exhibits the characteristics associated with a bifacial model of reduction. Flake width and platform length are much larger than expected however, and may indicate flake production from cores was also a frequent technique. The production of flake blanks from pebble cores, and their subsequent modification into the artifacts in this assemblage could also produce the patterning seen in the debitage. The frequency of use-damage on the flakes indicates many were employed as expedient tools and may have been produced for that purpose. Evidence of heat-treatment appears very infrequently in both the debitage and retouched assemblages, indicating it was rarely used as a production technology. The high quality of the raw material may have obviated any need to improve the flaking quality of the material.

The majority of the retouched assemblage is surficially retouched. Although most items also exhibit edge retouch, it is usually localized and not extensive on the piece, suggesting most items are not intensively used and resharpened/reworked. Additionally, the small size and thinness of most items means they could not be easily rejuvenated into other artifact types. This may explain why most points are discarded in a complete condition. In addition, there is very little evidence of reworking of broken pieces or of resharpening of complete items. All of these characteristics suggest an assemblage that primarily represents an expedient production strategy.

There is evidence that late prehistoric populations emphasized expedient flake-core technologies more than curated, predominantly bifacial technologies (Parry and Kelly 1987) but an additional factor must be considered at this site. European trade goods are present at the site, and some of these items may have replaced traditional stone tools for some activities. This may account for the relatively low diversity of morphofunctional classes in the assemblage, where only three classes, including one catchall category, contain more than two items. The concentration of stone artifacts in the point class may indicate this is one area where European goods did not replace traditional artifacts. The availability of trade items may also influence raw material selection and collection. If metal artifacts replace some stone artifacts, particularly larger ones used as cutting/scraping tools, then subsequent production of smaller items will only require small pieces of raw material. The presence of alternative goods affects not only the production of stone artifacts but also the selection and availability of raw materials.

These characteristics of the Yuchi Town assemblage are in contrast to other prehistoric site assemblages in the region. Comparison is made specifically with the Carmouche site

assemblage (Gresham et al. 1985), a multicomponent site located on the bank of Upatoi Creek 30 km northeast of Yuchi Town. Temporally diagnostic artifacts span the range from Early Archaic to Mississippian, with these two widely separated periods being the most frequently represented in the lithic assemblage. There is no evidence for a Historic Indian component at the Carmouche site.

Three aspects of the Carmouche site excavation are of critical importance in attempting to compare the assemblage with that of Yuchi Town. First, the Carmouche site was screened through .125 in (.32 cm) mesh and artifact frequencies, specifically debitage classes, reflect this difference in screen size. Second, a large proportion of the Carmouche site was excavated, producing a large assemblage. Comparison of raw frequencies of items between sites is constrained because of the differences in sample size. And third, the Carmouche site represents a variety of occupations over a long time span, each of which may have had a distinctive technological character. It is not possible to compare the Yuchi Town component to specific Carmouche components but only to the overall assemblage, with the interpretative limitations this entails. This caution also applies to other sites noted in this discussion. Despite these problems, some interesting differences between the two site assemblages are evident.

Gresham et al (1985:156-157) argue that lithic procurement and use in this region reflects a two-stage technological system. Chert was primarily acquired from the Flint River source area, some 70-90 km east and southeast of the area. Workshop sites along the Flint River indicate core and preform production occured at those locations. Lithic assemblages at these sites are characterized by relatively high frequencies of primary and secondary flakes, shatter, and early stage biface failures. Gresham et al. (1985) suggest the partially manufactured items were then transported to sites in other regions. At sites located away from the source area, exemplified by the Carmouche site, the transported items were further reduced and shaped into the desired final products. Biface manufacture and maintenance debitage (tertiary and thinning flakes), and discarded tools characterize these assemblages.

The Carmouche site chert assemblage contains primarily fossiliferous chert from Flint River sources and apparently makes little use of the yellow or honey chert characteristic of the Yuchi Town assemblage. Mistovich and Knight (1986:84) note that historic sites in this area of the Southeast generally show a preference for this latter chert while sites of earlier time periods rely on other sources. The reason for this preference is unknown.

The Carmouche site lies near quartz and quartzite exposures and these materials were used but comprise a smaller proportion of the assemblage than does chert. The model described above applies primarily to chert but implies locally available materials would exhibit more expedient use and exhibit the full range of reduction. This is not the case at Carmouche as the quartz assemblage exhibits the same pattern as the chert, although recognition of minimally modified and used pieces can be quite difficult on quartz. There is a much lower

frequency of quartz artifacts in the Yuchi assemblage and most items appear to be made on locally available pebbles which are generally very grainy and of limited knappability. The quartz at Carmouche is not characterized but may be of higher quality rendering it more usable for tool production. The procurement patterns at Carmouche, and other sites in the Oliver Basin just upstream from Yuchi Town (McMichael and Kellar 1960), exhibit a much greater use of quartz and quartzite as a raw material than at Yuchi Town. One possible explanation for this difference is the presence of other European tools at Yuchi Town that replaced many stone artifacts and reduced the acquisition of chert to a level that could be sustained from available sources, obviating the need to use less workable materials like quartz.

Quartz and quartzite pebbles are available at Carmouche and broken specimens occur frequently but unbroken examples are apparently absent or rare. Gresham et al. (1985) do not indicate whether these materials could occur naturally at the site but imply they are manuports and suggest they are heat-fractured from use in hearths. This is very different from Yuchi Town where the majority are unbroken and may be present at the site as a result of natural processes. It is also likely that at least some of the broken specimens at Yuchi Town reflect use although the specific activities are unknown.

It is difficult to compare reduction patterns in the debitage due to the great disparity in screen sizes between the two sites. At Carmouche, 76.9% of the chert flakes are tertiary while only 0.2% are primary, similarly the majority (67.7%) are between 10 and 20 mm in size. Gresham et al. (1985:123) suggest these patterns indicate an emphasis on later stage bifacial reduction that produced small flakes without cortex, but do not take the original size of the raw material into account. In contrast, at Yuchi Town 54.1% of the flakes exhibit cortex, suggestive of early-stage reduction yet flake size is nearly equivalent (Table 6-4). Carmouche appears to make very little use of the honey-colored Coastal Plain chert common at Yuchi Town and thus variation in raw material type and size may be responsible for these differences but this cannot be assessed without consideration of the remaining unexamined flake assemblage from Yuchi Town.

The Carmouche site assemblage is relatively large but the retouched assemblage is concentrated in the same morphofunctional categories as at Yuchi Town. Points (22.0%), bifaces (44.1%), retouched pieces (26.2%), and miscellaneous types (7.7%) make up the Carmouche assemblage (Gresham et al. 1985:Table 7), while the same categories at Yuchi Town comprise 41.1%, 23.3%, 21.1%, and 14.5% respectively. The relative lack of diversity (reflected by the low frequency of 'other' types) in the Carmouche assemblage is interesting given its larger size and may reflect the consistency of behaviors over time at that site. Points are proportionately more frequent at Yuchi Town while bifaces are less frequent. As noted before, this can be explained by the presence of European goods at Yuchi Town that limited the need for other stone tools. It also suggests trade goods did not replace stone as projectile tips, resulting in the relative abundance of points at Yuchi Town.

A final difference of note is the groundstone assemblage at Carmouche (Gresham et al. 1985:Table 14). While only slightly larger than at Yuchi Town (7.1% of the total shaped assemblage versus 4.8%), it exhibits a different set of items. The Carmouche assemblage includes twenty sandstone slabs with smoothed surfaces, in addition to seven pitted stones, 12 mano/hammerstones and 7 various shaped pieces. The latter two categories occur at Yuchi Town but the slabs and pitted stones are absent. Their absence may reflect sample size differences between the sites but also suggest some functional differences between them. Ascertaining these differences requires consideration of non-lithic data sets.

The results of this limited comparison indicate the Yuchi Town site exhibits a number of distinct differences from other sites in the region. Despite generally equivalent distances to the known raw material sources, Yuchi Town inhabitants preferentially chose a raw material rarely utilized by earlier occupants of the region. In addition, they made less use of coarser but locally abundant quartz and quartzite materials that were frequently employed at other sites. They manufactured similar types of artifacts but emphasized production of points with limited manufacture of other morphofunctional classes. Similarly, the groundstone assemblage is much more restricted than at the Carmouche site. These differences may reflect a variety of causes, including shifts in settlement pattern and lithic procurement strategies, changing social constraints on the acquisition and availability of various chert resources, and accessibility of European tools and the consequences of this new technology upon existing technological strategies.

Table 6-1. Non-Chert Artifacts Tabulated by Provenience Unit.

	Pebbles/Cobbles (indet. raw material)		Pebble/Cobble fragments (quartzite)		Sandstone		Fossilized Wood		Other		Total	
Provenience	N	Wt	N	Wt	N	Wt	N	Wt	N	Wt	N	Wt
TU 1, pz L 1-3	121	833	34	453	22	408	4	45			181	1,739
L 4	82	732	36	348	19	1,150	2	33	1	61	150	2,324
L 5	31	229	16	252	1	3	1	7			51	491
L 6	3	51	1	4							4	55
L 7	0											
TU 2, pz L 1-3	154	1346	29	332	34	332	4	207			221	1,917
L 4	105	339	34	527	21	442		1			160	1,308
L 5	17	80	6	51	2	22					25	153
L 6	2	13	1	3	1	3					4	19
TU 3, pz L 1-3	146	1094	56	643	32	657	6	77	1	5	241	2,476
L 4	43	339	23	185	4	14					70	538
L 5	8	69	10	94	3	11					21	174
L 6	2	7	1	18							3	25
TU 4, pz L 1-3	221	1603	70	992	55	803	5	77	2	38	353	3,519
L 4	51	392	37	317	2	26					90	735
L 5	23	133	8	94	4	13					35	242
L 6	1	2	1	3							2	5
TU 5, pz L 1	102	1132	19	212	5	88	1	21	1	3	128	1,456
L 2	54	533	15	351	9	81	1	3			79	968
L 3	31	382	8	322	10	173					49	891
L 4	not tabulated											

Provenience	N	Wt	N	Wt	N	Wt	N	Wt	N	Wt	N	Wt
TU 8, pz L 1-2	170	1252	33	427	36	394	3	97	3	83	245	2,253
L 3	10	46	6	53	2	9					18	108
L 4	3	49	2	37					1	27	6	113
L 5	25	161	13	204	3	40					41	405
L 6	9	248	1	36	1	52					11	336
L 7 N1/2	3	21	2	13	2	23			1	10	8	67
TU 13, pz L 1-2	137	1095	32	233	18	200	2	12	1	5	190	1,545
L 3	12	102	3	18	1	84					16	204
L 4			1	2	1	6					2	8
TU 14, pz L 1-2	102	736	26	292	14	269	2	10	1	23	145	1,330
L 3	8	70	1	15							9	85
L 4	1	4									1	4
TU 22, pz L 1	119	1222	39	601	15	271	1	7	1	16	175	2,117
L 2	66	431	15	233	16	296	1	12	1	2	99	773
L 3	60	464	16	197	12	117			1	56	89	834
L 4	not tabulated											
L 5	not tabulated											
F 1	18	154	7	72	4	29					29	255
F 1			1	8	1	51					2	59
F 3	7	86	3	38	2	8					12	132
F 10					2	10					2	10
F 12	7	31	3	22	1	9					11	62
F 21	1	3	1	4							2	7
F 36	1	2			2	12			1	3	4	17
F 37	3	19									3	19
F 38	1	18	1	5							2	23

Provenience	N	Wt	N	Wt	N	Wt	N	Wt	N	Wt	N	Wt
F 39			1	5							1	5
F 41	1	1	2	30							3	31
F 42	2	8									2	8
F 50	1	4									1	4
LH 713 (TU 1)	7	43	1	5	2	3					10	51
LH 707 (TU 5)	5	42	1	3					2	59	8	104
LH 708 (TU 5)	1	39									1	39
LH 157 (TU 8)	6	79	1	3	3	18					10	100
LH 158 (TU 8)	12	106	3	52							15	158
LH 504 (TU 13)	7	13	1	48	1	7					9	68
LH 507 (TU 14)	4	11			4	21					8	32

Table 6-2. Chert Artifacts Tabulated by Provenience Unit.

Provenience	Flakes		Angular fragments		Retouched Artifacts
	N	Wt	N	Wt	
TU 1, pz L 1-3	15	40	4	12	biface
L 4	5	9	2	3	2 bifaces, 2 points, hammerstone
L 5			1	2	
L 6	1	3			
L 7	0				
TU 2, pz L 1-3	16	49	7	56	uniface, 4 bifaces, 4 points, ret. piece, hammerstone
L 4	4	9	1	27	biface, uniface, point, drill, 2 hammerstones
L 5			2	9	biface
L 6	0				
TU 3, pz L 1-3	26	88	8	28	2 bifaces, 6 points, 3 ret. pieces, hammerstone
L 4	2	13	2	5	point, hammerstone
L 5	1	3	1	4	
L 6	0				
TU 4, pz L 1-3	80	227	12	45	5 bifaces, 3 points, 5 ret. pieces
L 4	4	7	1	9	3 points
L 5	2	8			ret. piece
L 6	0				
TU 5, pz L 1	4	15	1	4	biface, gunflint, wedge
L 2	6	21			
L 3	1	3	1	8	
L 4	0				
TU 8, pz L 1-2)	20	68	6	27	2 bifaces, 7 points, 3 gunflints, ret. piece, core
L 3	7	22	1	4	
L 4	3	9			point, scraper
L 5	1	2			point
L 6	0				
L 7, N1/2	0				
TU 13, pz L 1-2	10	45	3	7	2 points, 2 ret. pieces, gunflint, core
L 3			2	6	
L 4	0				
TU 14, pz L 1-2	17	26	1	3	ret. piece
L 3					point
L 4	0				
TU 22, pz L 1	29	85	4	11	2 points, 2 ret. pieces

Table 6.2 Continued.

Provenience	Flakes		Angular Fragments		Retouched Artifacts
	N	Wt	N	Wt	
L 2	21	46	4	21	2 bifaces, 3 ret. pieces, point
L 3	4	10			
L 4	1	2	1	2	
L 5	not tab.				
F 1	4	19			2 points
F 3	1	2			
F 9	1	4			
LH 157	1	3			
LH 504	1	1			biface

Table 6-3. Raw Material Summary, 9 Sample Units.

Raw Material	N	Wt
quartzite	712	9,926
sandstone	366	7,127
limestone	1	27
general igneous	8	244
fossilized wood	35	670
non-chert indeterminate	2,041	16,883
slate/shale	2	12
crystalline quartz	1	1
honey chert	220	675
red chert	36	115
dark honey w/ red lines chert	17	58
white chert	27	60
dark gray chert	4	18
other chert	134	429
Totals	3,604	36,245

Table 6-4. Cross-Tabulation of Texture, Bedding Planes, and Inclusions for Complete Flakes and Retouched Artifacts.

Chert Quality Attribute	N
Texture	
fine	192
medium	6
fine and medium	8
fine, medium, and coarse	4
Bedding planes	
absent	208
present	2
Inclusions	
absent	205
present	5

Table 6-5. Cross-Tabulation of Cortex and Raw Material.

	Cortex			
Raw material	51-100%	1-50%	0%	Total
honey chert	12	29	39	80
red chert	4	4	3	11
dark lined honey	1	3	1	5
white chert	1	1	2	4
other chert	4	8	12	24
Total	22	45	57	124

Table 6-6. Complete Flake Characteristics by Flake Type.

Attribute	Primary Flakes	Secondary Flakes	Tertiary Flakes
n	22	45	57
average length (cm)	2.40	2.18	2.14
average width (cm)	2.29	2.04	1.99
average thickness (cm)	0.76	0.63	0.49
average weight (g)	4.45	2.51	2.18
Heat treatment			
absent	19	41	56
present	1	2	-
heat-fractured	2	2	1
Texture			
fine	18	40	54
medium	1	1	-
fine and medium	1	4	3
fine, medium, coarse	2	-	-
Bedding planes			
absent	21	44	57
present	1	1	-
Inclusions			
absent	21	44	55
present	1	1	2
Platform length (cm)	0.92	1.09	0.86
Platform width (cm)	0.36	0.40	0.40
Platform condition			
plain	11	18	31
multi-facetted	2	12	19
battered	1	1	1
shattered	1	4	4
cortex	7	10	2
Platform preparation			
absent	20	33	38
present	2	12	19
Platform grinding			
absent	22	42	46
present	-	3	11
Platform lipping			
absent	21	41	51
present	1	4	6

Table 6-7. Cross-Tabulation of Morphofunctional Type and Technological Class.

	Morphofunctional type									
Technological class*	Biface	Uniface	Scraper	Drill	Point	Retouched piece	Gunflint	Wedge	Core	Total
bif surf, bif edge	3	0	0	0	1	0	0	0	0	4
bif surf, unif edge	4	0	0	0	15	0	1	0	0	20
bif surf, bif/unif edge	0	0	0	0	2	0	0	0	0	2
bif surf, no edge	12	0	0	0	7	0	0	0	0	19
unif surf, unif edge	1	1	0	0	1	5	0	0	0	8
unif surf, bif/unif edge	0	0	0	0	0	0	1	0	0	1
unif surf, no edge	0	1	0	0	0	3	0	0	2	6
bif/unif surf, unif edge	1	0	1	0	5	0	0	0	0	7
bif/unit surf, no edge	1	0	0	0	3	1	0	0	0	5
no surf, bif edge	0	0	0	0	1	1	0	0	0	2
no surf, unif edge	0	0	0	1	0	8	2	1	0	12
no surf, bif/unif edge	0	0	0	0	2	1	1	0	0	4
Totals	22	2	1	1	37	19	5	1	2	90

Notes: bif = bifacial; unif = unifacial; surf = surface

Table 6-8. Cross-Tabulation of Morphofunctional Type by Raw Material.

Raw Material	Morphofunctional type									
	Biface	Uniface	Scraper	Drill	Point	Retouched Piece	Gunflint	Wedge	Core	Total
quartzite	2	1	0	0	0	0	0	0	0	3
sandstone	1	0	0	0	0	0	0	0	0	1
quartz	0	0	0	0	1	0	0	0	0	1
honey chert	9	0	0	0	21	12	1	1	2	46
red chert	1	0	1	0	2	2	0	0	0	6
dark honey chert	2	0	0	0	0	0	0	0	0	2
white chert	1	0	0	0	1	2	0	0	0	4
gray chert	0	0	0	0	0	0	4	0	0	4
other chert	6	1	0	1	12	3	0	0	0	22
Totals	22	2	1	1	37	19	5	1	2	90

Table 6-9. Cross-Tabulation of Technological Class and Raw Material.

	Technological class											
Raw material	bif surf, bif edge	bif surf, unif edge	bif surf, bif/unif edge	bif surf, no edge	unif surf, unif edge	unif surf, bif/unif edge	unif surf, no edge	bif/unif surf, unif edge	bif/unif surf, no edge	no surf, bif edge	no surf, unif edge	no surf, bif/unif edge	Total
quartzite	1	0	0	1	1	0	0	0	0	0	0	0	3
quartz	0	0	0	0	0	0	0	0	0	0	0	1	1
sandstone	0	0	0	1	0	0	0	0	0	0	0	0	1
honey chert	1	11	2	7	3	0	5	4	5	0	7	1	46
red chert	0	1	0	2	1	0	0	1	0	1	0	0	6
dark, lined honey	0	0	0	1	0	0	0	1	0	0	0	0	2
white chert	1	0	0	1	1	0	0	0	0	0	1	0	4
gray chert	0	1	0	0	0	1	0	0	0	0	1	1	4
other chert	1	7	0	6	2	0	1	1	0	1	3	1	23
Total	4	20	2	19	8	1	6	7	5	2	12	4	90

Notes: bif = bifacial; unif = unifacial; surf = surface

Table 6-10. Cross-Tabulation of Morphofunctional Type by Heat-Treatment.

	Heat-treatment			
Morphofunctional	absent	present	heat fractured	Total
biface	20	2	0	22
uniface	1	0	1	2
scraper	0	1	0	1
drill	0	0	1	1
point	34	1	2	37
retouched piece	17	0	2	19
gunflint	5	0	0	5
wedge	1	0	0	1
core	2	0	0	2
Total	80	4	6	90

Table 6-11. Cross-Tabulation of Morphofunctional Type by Technological Class for Selected Artifacts from Nonsample Units.

	Morphofunctional type					
Technological class	biface	scraper	drill	point	gunflint	Total
bif surf, bif edge	1	0	0	2	0	3
bif surf, unif edge	2	0	1	9	1	13
bif surf, bif/unif edge	0	0	0	3	0	3
bif surf, no edge	9	0	0	7	0	16
unif surf, unif edge	0	1	0	1	1	3
bif/unif surf, unif edge	0	0	0	1	2	3
bif/unif surf, bif/unif edge	0	0	0	0	1	1
bif/unif surf, no edge	1	0	0	1	0	2
Total	13	1	1	24	5	44

Notes: bif = bifacial, unif = unifacial

Table 6-12. Cross-Tabulation of Morphofunctional Type and Raw Material for Selected Artifacts from Nonsample Units.

	Morphofunctional Type					
Raw material	biface	scraper	drill	point	gunflint	Total
quartzite	2	0	0	0	0	2
honey chert	9	1	0	13	0	23
red chert	0	0	1	0	0	1
white chert	0	0	0	2	0	2
gray chert	0	0	0	0	5	5
other chert	2	0	0	9	0	11
Total	13	1	1	24	5	44

Table 6-13. Cross-Tabulation of Flake Type and Utilization Damage.

	Utilization		
Flake type	Absent	Present	Total
primary	17	5	22
secondary	28	17	45
tertiary	29	28	57
Total	74	50	124

Table 6-14. Cross-Tabulation of Morphofunctional Type and Completeness

	Completeness		
Morphofunctional type	Complete	Broken	Total
biface	5	17	22
uniface	1	1	2
scraper	0	1	1
drill	1	0	1
point	26	11	37
retouched piece	8	11	19
gunflint	5	0	5
wedge	1	0	1
core	2	0	2
Total	59	41	90

Figure 6-1. General lithic artifact analysis attributes and variables.

A flake is defined as an artifact exhibiting a platform, bulb of percussion or a feather/hinge termination, or a combination of dorsal flake scars and ventral ripples of force. An angular piece is a chert fragment not classifiable as a pebble or a flake. Rough rock is any non-chert raw material. Retouch is defined as at least three contiguous flake scars at least 1 mm in length with a systematic orientation. Surficial retouch is at least 5 mm in length while edge retouch is less than 5 mm in length. Retouch is bifacial if it is present on opposite but adjoining faces.

Item
1 = unretouched flake
2 = flake with retouch
3 = unretouched angular piece
4 = angular piece with retouch
5 = indeterminate retouched piece
6 = not used
7 = unmodified rough rock piece

Morphofunctional type

If Item=1

1 = 51-100% dorsal cortex (primary flake)
2 = 1-50% dorsal cortex (secondary flake)
3 = 0% dorsal cortex (tertiary flake)

If Item = 7
1 = unbroken pebble (LT 64 mm)
2 = unbroken cobble (GT 64 mm)
3 = broken pebble/cobble
4 = other fragment

If Item=2, 4, 5, 6

1 = biface
2 = uniface
3 = scraper
4 = drill
5 = point
6 = retouched piece
7 = gunflint
8 = wedge
9 = core
10 = biface/hammerstone
11 = shaped piece

Surface and edge retouch categories
1 = bifacial
2 = unifacial
3 = bifacial and unifacial
4 = absent

Raw Material
1 = quartzite
2 = sandstone
3 = limestone
4 = general igneous
5 = fossil wood
6 = indeterminate (unbroken peb/cob)
7 = slate/shale
8 = general indeterminate
9 = crystalline quartz
10 = yellow-brown (honey) chert
11 = red chert (all shades)
12 = dark honey chert with red-brown lines
13 = white/light grey chert
14 = dark grey chert (often translucent)
15 = other chert

Heat treatment
1 = no
2 = yes
3 = heat fractured

Figure 6-2. Attributes and Variables Collected in Detailed Lithic Artifact Analysis.

A. Attributes recorded for all complete flakes and retouched artifacts.

Length - maximum dimension perpendicular to and through the platform. Measured in mm.

Width - maximum dimension perpendicular to length. Measured in mm.

Thickness - maximum dimension between ventral and dorsal surfaces. Measured in mm.

Weight - measured in grams.

Texture
1 = fine
2 = medium
3 = coarse
4 = combination of fine and medium
5 = combination of fine, medium, and coarse

Bedding planes
1 = absent
2 = present

Inclusions (voids, crystals, fossils, etc. that interrupt the texture of the material)
1 = absent
2 = present

B. Additional attributes recorded for all complete flakes.

Item
1 = flake
2 = blade

Dorsal cortex
1 = 51-100%
2 = 1-50 %
3 = 0%

Utilization (identified as systematic flaking/crushing of edge viewed with 10x hand lens)
1 = absent
2 = present

Platform length - maximum dimension parallel to flake width. Measured in mm.

Platform width - maximum dimension perpendicular to length (parallel to flake thickness). Measured in mm.

Platform condition
1 = plain
2 = multifacetted (multiple flake scars)
3 = battered

4 = shattered (most of platform broken or absent)
5 = cortex

Figure 6-2 (continued).

B. Additional attributes recorded for complete flakes continued.

Platform preparation - flake scars less than 1 cm in length removed from dorsal margin of platform
1 = absent
2 = present

Platform grinding - ground dorsal edge of platform
1 = absent
2 = present

Lipping
1 = absent
2 = present

C. Additional attributes recorded for retouched artifacts.

Completeness
1 = complete
2 = broken

Breakage
1 = transverse (perpendicular to long axis of artifact)
2 = parallel (to long axis)
3 = oblique
4 = multiple
5 = impact fracture

Reworking/resharpening
1 = absent
2 = present

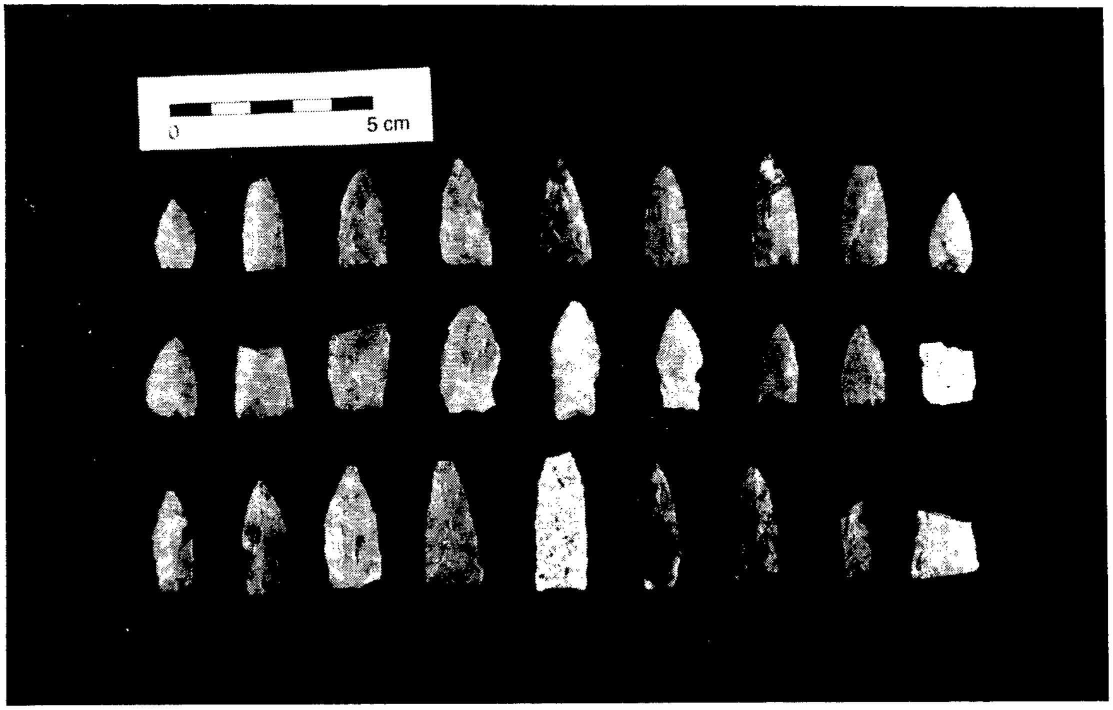


Plate 6-1. Projectile Points. Top: a-i, Middle: j-r, Bottom: s-aa.

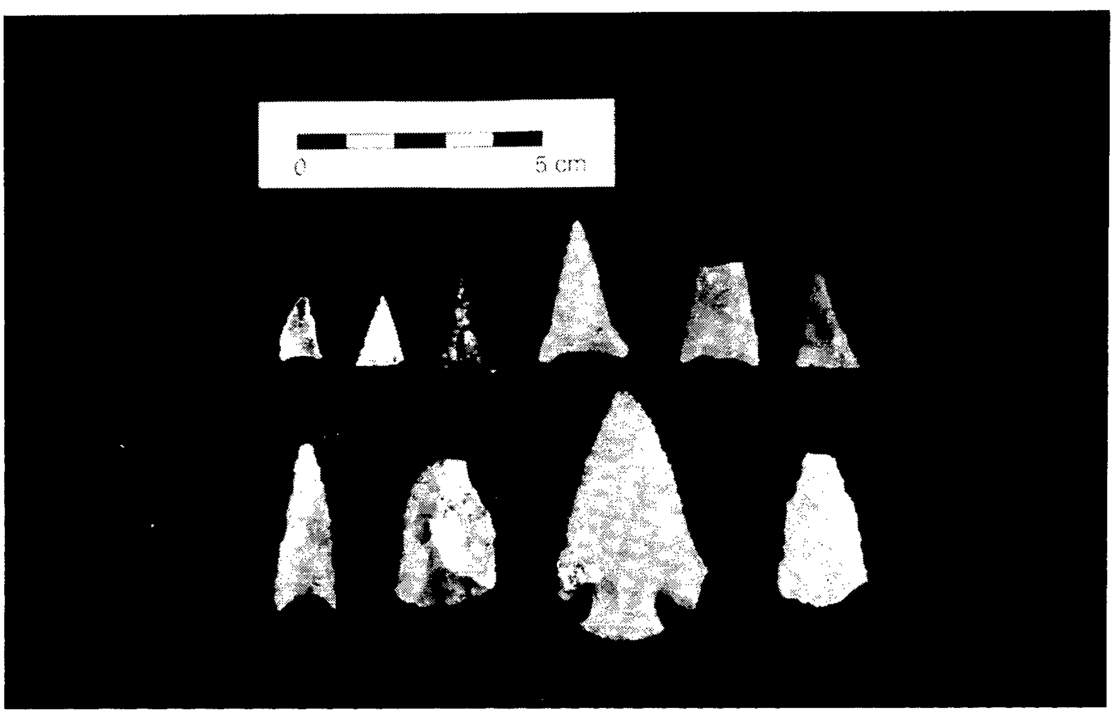


Plate 6-2. Projectile Points. Top: a-f, Bottom: g-j.

Plate 6-3. Chert Bifaces. Top: a-e, Second: f-j, Third: k-o, Bottom: p-s.

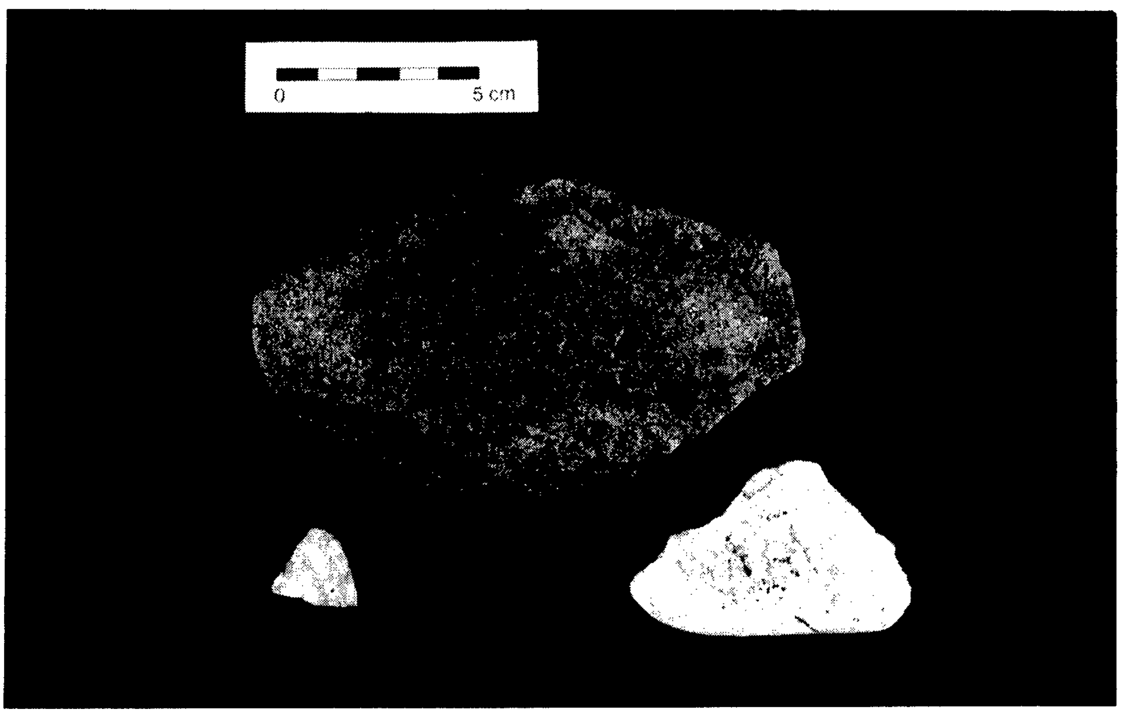


Plate 6-4. Non-Chert Bifaces. Top: a, Bottom: b-c.

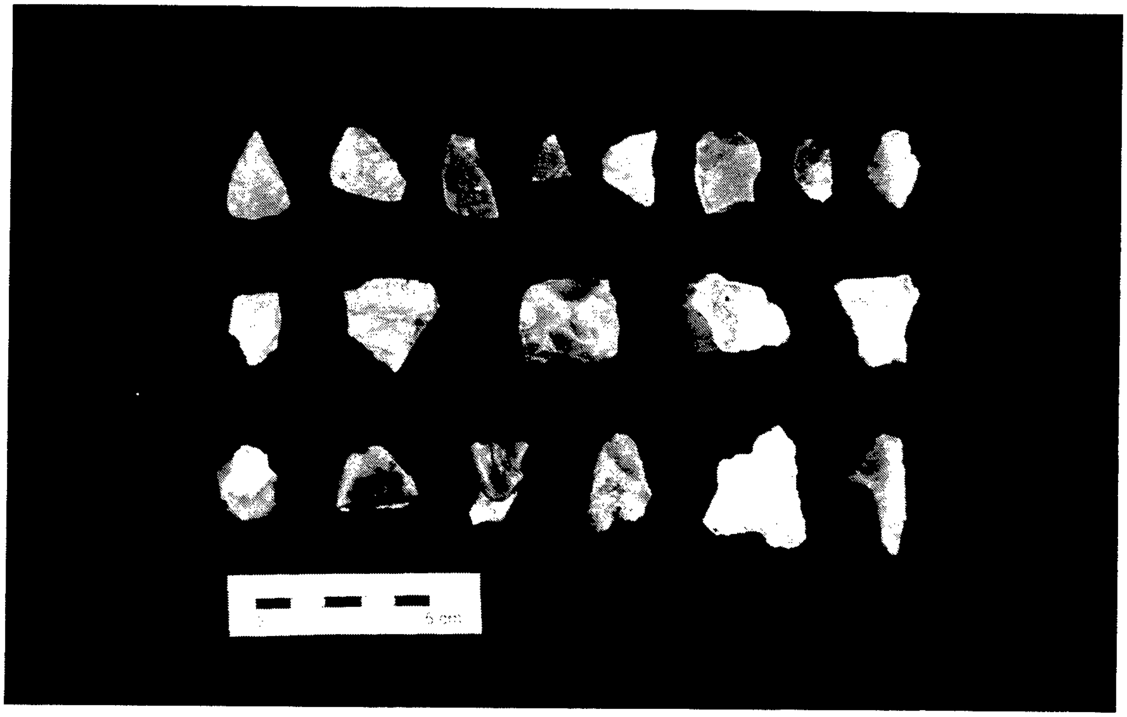


Plate 6-5. Chert Retouched Pieces. Top: a-h, Middle: i-m, Bottom: n-s.

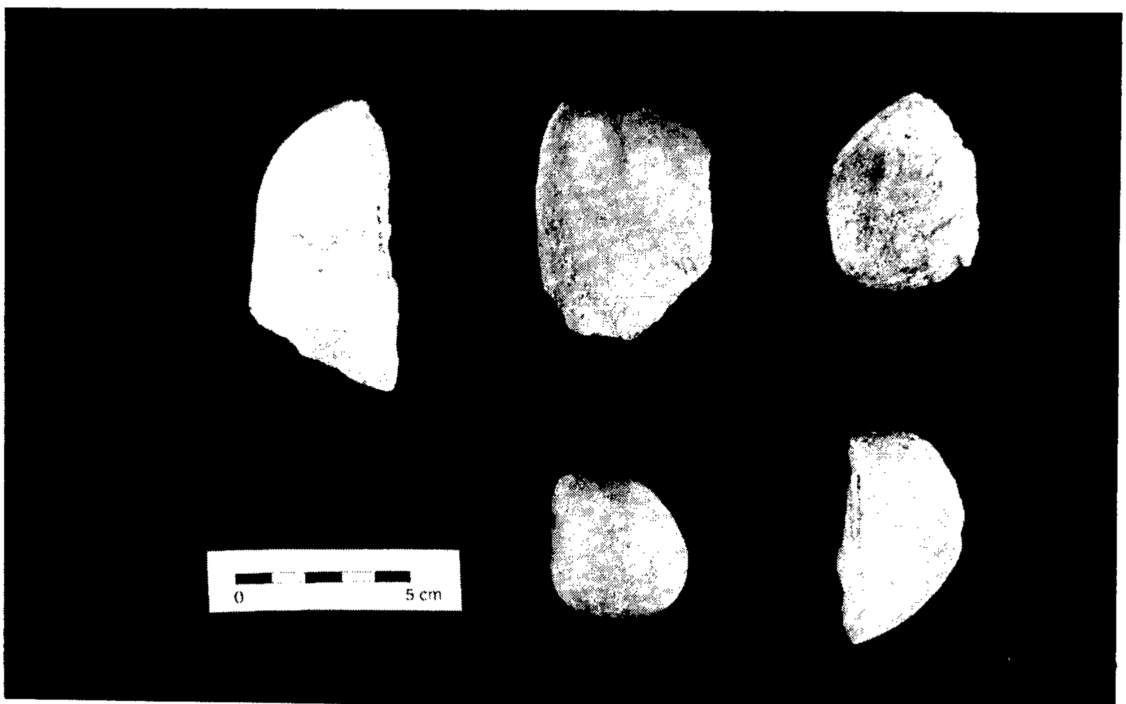


Plate 6-6. Hammerstones. Top: a-c, Bottom: d-e.

Chapter 7
Euro-American Artifacts

Mark J. Wagner

The Yuchi Town Euro-American artifact assemblage consisted of 189 metal, ceramic, glass, and lithic artifacts (Table 7-1). Two Native American-anufactured artifacts--the head to a shell ear pin and a gunflint--also were included in this assemblage making a total of 191 items. One hundred and forty-seven of these artifacts were recovered from test unit, feature, and burial contexts. In addition 41 glass beads, a flattened lead musket ball, and two small brass artifacts were recovered from soil flotation samples.

Analysis Methods

The initial step of the analysis involved separating the artifact assemblage into ceramic, glass, metal, and lithic categories. Detailed observations including weight, length, width, and thickness were then recorded for each artifact. Artifacts were identified as to type using published data from a number of seventeenth and eighteenth century sites in the midwestern and southeastern United States as well as more specialized material culture studies.

Following the identification of artifacts as to type the assemblage was separated into functional categories similar to those established for the analysis of eighteenth century European trade goods in the Great Lakes region (Anderson 1994:93-115). Categories used in the present study included: (1) hunting (gun parts, gun flints, and metal arrow points); (2) cooking and eating (ceramic vessels, brass kettles, and knives); (3) adornment (rings, earbobs, tinkling cones, brass and iron pendants); (4) tobacco use (kaolin pipes); (5) alcohol use (green bottle glass and decanter parts); and (6) clothing (button). In addition, three new categories--metal working, architecture, and other--were established. The metal working category consists of brass and iron artifacts recycled into other forms by Native American artisans. Because all of the items in this category also are represented within other functional categories (i.e., native-made brass pendants also are contained within the Adornment category) discussion of this category is restricted to the end of this chapter. The architectural category consists of nail forms commonly associated with the construction of Euro-American structures. The other category contains broken unidentifiable objects that would have been contained within one of the other functional categories if complete, and objects with uncertain functions.

Specific artifacts are identified in the text and tables by specimen numbers assigned when the artifacts were photographed (e.g., specimen 147). Additional designations consisting of the last specimen number for a provenience in combination with a letter were assigned during the analysis to unphotographed artifacts discussed in the text or listed on tables (i.e., specimen 147a would be an unphotographed artifact from the same provenience as photographed specimen 147).

The following analysis of the Yuchi Town artifact assemblage is organized by functional category. Information regarding the artifacts in these categories is presented in both tabular and narrative form. Generally, information regarding artifact forms consisting of only one to two objects is presented in narrative form while the data on artifact types represented by numerous specimens (beads, for example) is presented in tables.

Hunting Category

Euro-American gun parts, gunflints, shot, and Native American-manufactured gun flints and metal arrow points are contained within this category (Table 7-1). The hunting category comprised 16.75% of the site functional categories.

Gun Parts

Eleven metal gun parts were recovered by the excavations (Table 7-1, Plate 7-1). These included a musket lockplate, lockplate bolt, two brass trigger guard finials, brass rear gun sight, four gun cocks, and two guncock vise caps. A fragmentary curved iron object that may represent part of a trigger or frizzen also was recovered.

Lockplate

A complete iron lockplate was recovered from one of the test units (Tables 7-1 and 7-2). It has a rounded integral flashpan and an unbridled tumbler (Plate 7-1e). A section of the broken mainspring is still present. The lockplate is flat with beveled edges in cross section; the bottom is moderately curved. The lockplate measured 140.5 mm (5.5 in) long by 21.7 mm (1.1 in) wide. The mainspring ledge measured 51.3 mm (2 in) long. This specimen is virtually identical to the 1702 TR trade gun lockplate recovered from a Cherokee burial at the Conestoga site in Tennessee. At first glance the Yuchi Town gun appeared to differ from the TR gun in having only two sideplate screw holes, one at either end of the lockplate, while the TR gun has three holes. However, closer inspection revealed that the Yuchi Town lockplate appears to have a third hole containing a broken screw located immediately behind and adjacent to the mainspring ledge. The broken screw shaft is slightly visible on the interior of the lockplate. It is not visible at all on the rusted lockplate exterior. The center screw on the Yuchi Town gun is closer to the mainspring ledge than that of the TR gun. The position of the center hole on the Yuchi Town gun, however, is identical to that of an English lockplate manufactured in the late seventeenth century for the Hudson's Bay Company (Hamilton 1982:3). A faint engraved design may be present on the rear of the lockplate. This could not be positively identified due to the rust covering the lockplate exterior. In sum, the lockplate appears to have been part of a late seventeenth to early eighteenth century trade gun. This specimen may be an example of the Type G trade gun lockplate (Hamilton 1968:15; 1980:70-71).

Lockplate Screw

A single lockplate screw that would have held a lockplate to a musket stock by extending through the stock and attaching to a sideplate was recovered from Unit 1 (Table 7-1). This hand-forged 46.7 mm long screw has an asymmetrical (generally oval) unslotted plano-convex head (Plate 7-1 f). The head varies in diameter from 13.1 to 14.5 mm. Screw threads are present only along the lower 10.3 mm of the asymmetrical shaft. The shaft is round only in the area of the screw threads. Diameter in this area of the screw shaft varied from 4.7 to 4.9 mm. This screw appears to be very similar to those which attached the lockplate to the dragon sideplate of the early eighteenth century Type H trade gun (Hamilton 1968:17).

Trigger Guard Finials

Two brass trigger guard finials were recovered (Table 7-1). Both are from the front portion of the trigger guard located beneath the musket barrel. One is broken immediately behind the front screw hole while the second is broken across this same hole (Plate 7-1 g, h). The two finials are virtually identical in shape and appearance. Both have a constricted neck (7 mm wide) located approximately 8 mm in front of the screw hole, a bulbous midsection (14 mm wide) flanked by two lateral barbs, and a tapered barbed end. The finished end of the more intact of the two finials has four lateral barbs and one end barb while the finial broken across the screw hole has only three barbs (one end and two lateral). One of the lateral barbs on the latter specimen is missing its point. It may be that the other barbs on this finial also broke and were ground off, resulting in three instead of five barbs. Some indication that this may have been the case is the number of small engraved lines located immediately above the lateral barbs on both artifacts. On the more complete of the two finials one engraved line is associated with each of the four lateral barbs at the finished end of the artifact. A similar number of engraved lines occur on the second finial despite the presence of only two lateral barbs.

The finials are identical in appearance to the Type G English trade gun finial illustrated in Hamilton (1968: Figure 10a, c; 1980: Figure 39c), the type specimen for which was recovered at Yuchi Town. Hamilton (1968:15) suggested a date range of 1725-1770 for this gun type. Burke (1980:68) suggested a very similar date range of 1730-1775. The Type G trade gun is believed to have been one of the precursors of the Northwest Trade Gun that became the overwhelming choice of Native American consumers during the late 18th-early 19th centuries.

Rear Sight

A battered brass gun sight was recovered from level 4 of the midden (Table 7-1; Plate 7-1 i). This object had a maximum width and thickness of 13.17 mm and 8.23 mm, respectively. Length was 29.9 mm. It weighed 5 g. This gun sight is very similar in appearance to a 1702 English musket trade gun sight illustrated by Burke (1980:72). It is virtually identical to a broken Type G trade gun sight found at the Cherokee-occupied Conestoga village site in Tennessee (Hamilton 1968:Figure 10F). The 1702 trade gun and Yuchi Town Type G trade gun show a number of

similarities indicating that both probably are variations of a common early eighteenth century musket pattern. The Yuchi Town gun sight has an acorn-shaped finial in front of the sight channel. This finial is decorated with two incised parallel lines oriented perpendicular to the long axis of the gun barrel. The finial constricts below the base of the "acorn" before expanding in width again as it approaches the main body of the sight. The top of the sight is decorated with incised lines oriented parallel to the long axis of the gun barrel. Two are located on the left side of the sight slot while only one is visible on the right side. However, the right side of the sight has been damaged by battering and a fourth line may once have been present in this area. The right side of the gun sight slopes in toward the sight slot as the result of the battering. Although the sight appears to still have been functional despite this damage, the owner of the musket to which it once was attached may have discarded it in favor of a new gun sight.

Gun Cock Vise Caps

Two iron gun cock vise caps or upper vise jaws (one partial and one complete) were recovered from the site midden (Table 7-1). The complete cap (specimen 160) is oval in plan view with a plano-convex cross-section (Plate 7-1 d). A semi-circular notch or slot is present at the rear of the cap. The cap measured 33.1 mm long with a maximum width of 30.9 mm. It had a maximum thickness of 6.2 mm. The screw-hole measured approximately 5.5 mm in diameter. This cap is very close in appearance to the ca. 1680-1730 cap form illustrated by Benson (1980:78). It also is very similar in appearance to an upper vise jaw recovered from the late eighteenth to early nineteenth century Big Osage site (Hamilton 1982:102). Oval slotted and pierced top jaws also are associated with the late eighteenth century British Short Land Pattern, Type 2 (or Second Model Brown Bess) military musket (Darling 1971:23, 40). Burke (1980:68) reports that the 1702 British TR trade gun also had a slotted top jaw. In sum, slotted top jaws are probably characteristic of a number of early eighteenth to early nineteenth century British muskets.

The fragmentary cap (specimen 147a) consists of approximately one-third of a plano-convex upper vise jaw. Length and width measurements (both incomplete) were 25.8 mm and 21.0 mm, respectively. It had a maximum thickness of 5.8 mm. Diameter measurements were not taken on the rust-choked screw-hole. The incomplete nature of this artifact made further identification impossible.

Gun Cocks

Four goose-necked flintlock gun cocks or hammers (three largely complete and one consisting only of the lower body of a cock) were recovered from various midden levels in four different units (Table 7-1). All of the cocks are plano-convex or "rounded" (Benson 1980:97) in cross-section. At least two different types of cocks are represented based on differences in the shape of the lower body of the gun cock. The badly broken gun cock (specimen 145) has a straight basal edge and a straight edge behind the tumbler screw hole. These same edges are rounded on the other three cocks. Two of the largely complete cocks (specimens 177 and 178) have intact

narrow combs or tangs (Plate 7-1 b, c) while the upper portion of the comb is missing on the third cock (specimen 176; Plate 7-1a). Narrow combs are found on the early eighteenth century British military "Brown Bess" musket (Darling 1971) but are probably associated with a number of other early eighteenth century gun types as well (Hamilton 1980). It is notable that the early eighteenth century "TR" trade gun illustrated in Hamilton (1980:70-71) also has a cock with a narrow stepped comb. One of the combs (specimen 177) appears to have a step approximately half way up for the insertion of a slotted vise cap. The twisted shape of the specimen 178 comb made observation difficult but a step may have been present on this comb as well. Tumblers were still attached to both the specimen 177 and 178 cocks.

Possible Gun Part

A curved rectangular iron artifact that may represent a fragment of a trigger or frizzen was recovered from the site midden. This object measured 26.3 mm long (broken) by 13.22 mm wide (Table 7-1). The broken narrow end of the object measured 3.9 mm thick. The opposite unbroken edge measured 5.5 mm thick.

Gunflints

Nine gunflints were recovered by the investigations (Tables 7-1 and 7-3). Manufacturing techniques represented within this small assemblage include the spall (n=7), blade core (n=1), and Native American bifacial reduction (n=1) methods.

Gun spalls are wedge-shaped gunflints produced by striking semi-circular flakes from a flint nodule (Witthoft 1967:25). Characteristics include a bulb of percussion on the ventral surface, a relatively flat dorsal surface, a thickened proximal heel, and a straight distal working edge formed by the removal of small thinning flakes. The lateral edges of gunspalls also often show evidence of reworking (Kemotsu 1991:203). Gunspalls produced by English flint workers primarily date between 1660 and 1765 (de Lotbiniere 1980:64). Hamilton (1980:142), however, has suggested that gunspall production may have started as early as 1600 with the invention of when the first flintlock ignition systems. English gunspalls dispatched to North American between 1660 and 1765 largely were manufactured from a black flint with a brown translucency and white spots (de Lotbiniere 1980:64).

All of the definite and probable gunspalls recovered from the Yuchi Town site are manufactured from a dark gray to black flint similar to that described by de Lotbiniere (Table 7-3). Four of the Yuchi Town gunspalls (specimens 56, 58, 60, and 97, Plate 7-2 c, a, b, g, respectively) are classic examples of the gunspall type marked by reworking of the ventral surface heels and lateral edges. The distal edge opposite the heel also is carefully retouched on all four specimens. On three gunspalls this reworking is confined to the dorsal surface while one (specimen 60) has a bifacially retouched working edge

Two other Yuchi Town gunspalls (specimens 98 and 99, Plate 7-2 i and d, respectively) have

been heavily reworked from their original forms by either Euro-American or Native American flint workers. Specimen 98 is a small square gunspall with extensively retouched lateral blade edges. The working edge opposite the heel also has been heavily retouched. This specimen may represent a larger gunspall that was reworked for use in a gun with a smaller lock such as a pistol. The reworking also may represent an attempt to create a different striking edge on the gunspall once the original edge was no longer serviceable. The dorsal surface of the other reworked gunspall (specimen 99) is covered by extensive flake scars similar to those found on Native American chipped stone tools. This specimen is made entirely from an oolitic light gray flint or chert very similar in appearance, color, and texture to that found interspersed with the darker gray and black colors on some of the previously described gunspalls. It also has the characteristic flat dorsal surface of a gunspall. The edges of the specimen also are heavily crushed or battered. The heavily retouched heel of the gunspall extends beyond the lateral edges creating a trapezoidal appearance. The extension of the heel beyond the lateral edges together with the extensive dorsal flake scarring suggests that specimen 99 represents a large gunspall reworked into a smaller form.

One Native American-manufactured gunflint is present in the assemblage (Table 7-3). Characteristics of such gunflints typically include production of the gunflint through bifacial reduction, relatively small size, bi-convex cross section, square shape, and use of American chert rather than European flint (Witthoft 1967:22-23). The Yuchi Town example is a small bifacially chipped artifact made from a non-European chert (Table 7-3). This gunflint is relatively thick for its small size and has a D-shaped rather than square appearance in plan view. It is biconvex in cross-section.

One French gunflint manufactured on a blade struck from a prepared core also was recovered. The designation of this item as French is based both on the method of manufacture and the honey-colored appearance of the flint. The French discovered the blade core technique as early as 1660 but kept it secret from the British until the end of the 18th century (Hamilton 1980:141-142). As such, British gunflints produced by the spall method and French gunflints generated from prepared cores were in simultaneous use during the late seventeenth century and throughout the 18th century. The blade core method did not immediately replace the French gunspall industry and gunflints produced by both techniques co-occur on 18th century French-associated Native American sites (Brain 1979:210; 1988). The Yuchi Town gunflint is a French "ordinary" gunflint as defined by Hamilton (1980:138, 140). Such flints, which have a single rather than two ridges on their dorsal surface, were struck off the core periodically to maintain proper spacing between the ridges The Yuchi Town example is very crude with unretouched blade edges. The presence of crushing or battering scars along both the proximal and distal blade edges indicates that this unmodified gunflint was used in a flintlock firing system.

In sum, the Yuchi Town gunflint assemblage is dominated by gunflints manufactured by the spall method. French blade core and Native American manufactured specimens are also present. It is perhaps notable that all of the Yuchi Town gunspalls are manufactured from a distinctive black to light gray translucent brown flint which occurs in both France and England rather than the honey-colored French flint (de Lotbiniere 1980:154-160; Witthoft 1967). Honey-colored

gunspalls appear to predominate on 18th century French-associated Tunica sites in Louisiana although gunspalls manufactured from a gray "floater" flint also occur (Brain 1979:210; 1988). The absence of honey-colored gunspalls at Yuchi Town suggests that the black and gray gunspalls at the site may have been manufactured in England rather than France. De Lotbiniere (1980:62-63) has found convincing documentary evidence that British-manufactured gunflints were supplied by both the British government and private trading companies to military forces and traders in North America throughout the late seventeenth and 18th centuries. French gunflints also were supplied by these same two agencies to British interests in the New World meaning that both British and French gunflints can be expected to occur at British-associated sites in the Americas. As such, both the gunspalls and the French blade gunflint at Yuchi Town may have been supplied to the Creek by British traders during the early part of the 18th century. The Creek also manufactured their own gunflints out of chert using the same bifacial reduction method used to create arrow heads and other tools from the prehistoric to early historic periods. Native American chert-working methods also were used to rework European-made gunflints into smaller forms.

Lead Musket Balls

Two flattened lead musket balls were recovered by the excavations (Table 7-1, Plate 7-1 j, k). The shape of the ball from level 1 of Test Unit 9 has been distorted by impact resulting in a plano-convex cross-section. The 10.98 mm thick ball had a maximum diameter of 20.34 mm. The diameter of the ball has been exaggerated by impact with the original diameter undoubtedly less than the above figure. Weight was 20 g. The second musket ball was recovered in a flotation sample from level 3 of Unit 21. This ball also has a plano-convex cross-section, weighs 17 g, and has a maximum diameter of 19.3 mm.

Brass Arrow Points

One unperforated cut brass triangle (specimen 153, Plate 7-3 g) and two socketed brass cones (specimens 141 and 154, Plate 7-4 a and b, respectively) are interpreted as representing native-manufactured arrow points (Table 7-4). The brass triangle is similar in size to the larger of the two perforated triangular pendants (19.7 mm long by 15.4 mm wide at the base) but is over twice as thick (1.2 to 1.28 mm). It also has a pointed rather than flattened tip. Unperforated brass triangles recovered from 18th century Cherokee and Illini sites similarly have been interpreted as native-made arrow points (Good 1972:86; Newman 1986:441).

Conical brass artifacts similar to those recovered from the Yuchi Town site are commonly interpreted as tinkling cones (Brain 1979, 1988; Good 1972; Newman 1986). Although such an interpretation may be correct for many of these objects, the Yuchi Town specimens exhibit several features that support an arrow point identification. First, both of the objects are more carefully made than the three tinkling cones found at the site. Both consist of a single layer of triangular brass that has been folded over, creating a seam on one side. The edges of the folded brass meet at the seam without overlapping. The seam is sealed from the base of the artifact to

the sharply pointed tip. In contrast to a typical tinkler, the aperture or point of the objects are closed providing no means of attachment. Both also have carefully finished bases. Specimen 142 measures 42.2 mm long by 8.2 to 9.1 mm wide at the base. The interior basal diameter varies from 7.2 to 7.5 mm. The second possible conical arrow point (specimen 154) is 34.4 mm long by 7.4 to 7.7 mm wide at the base. The interior diameter varied from 6.8 to 7.0 mm.

Iron Arrow Point

A single conical iron artifact was found in level 2 of the midden (Table 7-1). This object is very similar in appearance to the two brass conical arrow points also recovered from the site (Plates 7-3 a and 7-4 c). Although the base of the object is covered with rust it originally appears to have been hollow. The object is also relatively light (3 g) in weight which again suggests that it is hollow. A seam that extends from the base to the tip is present on one side of the artifact. Similar to the brass arrow points, the presence of this seam suggests that specimen 158 was fashioned from a triangular piece of metal which was folded over to meet at the seam. The tip of the 40.3 mm long object is closed and pointed. Basal diameter varied from 6.7 to 7.7 mm.

Cooking and Eating

This functional category is represented by ceramic food service and storage vessel fragments, small pieces of brass kettles, and iron knife fragments (Table 7-1). The cooking and eating category comprised 16.23% of all functional categories at the site.

Ceramics

Only 11 European-made ceramics were recovered by the Yuchi Town excavations (Table 7-1). In addition to their small number, most of the sherds were small in size or lacked distinguishing characteristics by which a positive identification could be made (Tables 7-5 and 7-6). Nevertheless, it is possible to make some general observations regarding this small assemblage. Ware types within the assemblage included tin-glazed earthenware (n=4), lead-glazed earthenware (n=1), and six salt-glazed stoneware sherds.

The four tin-glazed body sherds are small in size with exfoliated surfaces making it difficult to positively identify them as either French faience or English delft ceramics (Table 7-5; Plate 7-5 a, b, c). Paste colors varied from buff (n=3) to salmon (n=1). Thickness ranged from 3.56 to 4.41 mm with a mean of 4.41 mm. Three of the sherds are decorated with hand-painted light blue to dark blue lines and dark blue leaves against a glazed blue-white to gray-white background. The largest of the sherds (specimen 185) is the only sherd to contain a fragment of an identifiable pattern (Plate 7-5 a). The configuration of the light and dark blue lines and dark leaves on this sherd is identical to the English delft ceramic mimosa pattern (1720-1735) illustrated by Noel-Hume (1978:111, Figure 31a). The color and shape of the very fragmentary designs on the other two decorated sherds (specimens 184 and 186; Plate 7-5 c and b, respectively) are similar to that of specimen 185 suggesting that they too may represent delft ceramics. Vessel type for all four

tin-glazed sherds was unidentifiable.

One olive earthenware body sherd (specimen 192) with interior and exterior lead glazing also was recovered (Table 7-6). Small (<1 mm) pebbles were present as inclusions within the fine yellow paste. Green-glazed coarse earthenwares were an important constituent of French kitchen wares during the seventeenth and 18th centuries (Lunn 1973:175-191). Vessel types included bowls, pitchers, porringers, and other forms. Lead-glazed earthenwares also are associated with sixteenth through nineteenth century Spanish occupations in Florida although green-glazed earthenwares are restricted to a sixteenth century context (Deagan 1987:47-51). Green-glazed earthenwares have been recovered from early 18th century Native American contexts in Louisiana and Mississippi (Brain 1979, 1988).

The salt-glazed stoneware sherds (all undecorated) included one basal and five body sherds (Table 7-6). The basal sherd consisted of a small portion of the lower wall and base of a probable jar or crock. Two of the stoneware sherds were tentatively identified as to type. One of these (specimen 182, Plate 7-5 e) consists of a small fragment of a very finely made light gray stoneware vessel that may represent part of a Westerwald jug or mug. Westerwald ceramics were produced in the Rhineland during the seventeenth and 18th century. They were imported into the Americas by British merchants primarily from the late seventeenth to mid-18th centuries (Noel-Hume 1969c, 1978:276-285). Intact Westerwald mugs were recovered from the Tunica-occupied Trudeau site (1731-1764) site in Louisiana (Brain 1979:77-81). Westerwald stonewares also have been recovered from a number of other Tunica sites in Louisiana and Mississippi (Brain 1988:81, 96). The second identifiable stoneware sherd (specimen 188) has a light gray body with brown mottling (Plate 7-5 d). Gray-bodied stonewares with brown mottling are characteristic of the seventeenth and early 18th century Rhenish-made Bellarmine stoneware bottles or jugs (Noel-Hume 1978:55-57). Similar to Westerwald ceramics, intact and fragmentary Bellarmine vessels have been recovered from an early 18th century context at Tunica sites in Louisiana and Mississippi (Brain 1979:74-76; 1988).

Cut and Worked Brass

Brass kettles were represented by brass scraps that presumably represent waste from the recycling of brass kettles into other artifact forms (Table 7-4). Two of the scraps (specimens 141 and 143) were cut on all sides, one (specimen 158a) had torn edges, and six had a combination of torn and cut edges. One scrap was triangular while the others were irregular in form. Thickness ranged from 0.34 to 0.84 mm. The presence of a possible rivet hole in one of the scraps (specimen 132, Plate 7-6 d) suggests that it once may have been part of a kettle mend patch.

Brass Kettle Mend Patch

A broken kettle mend patch (specimen 139) was recovered from Unit 8 (Tables 7-1 and 7-4). The patch measured approximately 45 mm long with a maximum width of 30.1 mm. Three rivet holes, one of which still contained a brass rivet, were present on the patch (Plate 7-6 c). The

patch was broken across two of the mend holes, suggesting that the patch may have failed while in use. It also is possible that the patch was broken off from the kettle when the kettle eventually was recycled into other artifact forms.

Iron Knives

Eight knife fragments were recovered from unit contexts at the Yuchi Town site (Table 7-7). These included portions of four blades, two blade and handle sections, and two handle fragments (Plate 7-7). Four of the knife fragments represent portions of case or cartouche knives (Hanson 1994; Stone 1974). These are knives in which a single piece of steel forms both the blade and handle shaft (Brain 1979:152). The term "case" ostensibly derives from the fact that these knives were stored in boxes in English kitchens (Hanson 1994:12). Both of the very fragmentary Yuchi Town specimens fall within Stone's (1974:269) Class II knife category (i.e., no hinge between handle and blade). Two of the Yuchi Town case knives consist of blade and haft sections. The more intact of these (specimen 144; Plate 7-7 a) consists of a partial blade and haft element separated by a round integral iron bolster, a characteristic of most case knives (Hanson 1994:12). Bolsters are raised or offset areas located between the blade and blade and handles on case knives (Stone 1974:263). The blade is wedge-shaped in cross-section with a maximum width of 14.4 mm. A single iron attachment pin remains in the fragmentary haft element. The second Yuchi Town case knife has a very fragmentary blade section, a constricted bolster area, and a broken rectangular haft element (Plate 7-7 c). Two very fragmentary haft elements to case knives also were recovered (Plate 7-7 d, f). Both have only a single iron attachment pin remaining out of the several that originally would have been present (Table 7-8).

Four blade sections also were recovered (Table 7-7). Two are small fragments about which little can be said. The other two are "hawkbill" (Stone 1974) or "sheepsfoot" (Hanson 1994:4; Neumann and Kravic 1975:172) blades that have curved back edges and straight blade edges (Plate 7-7 b, e). This blade type is associated with both clasp and case knives (Neumann and Kravic 1975:172; Russell 1967:208; Stone 1974:262, 268). Neither knife appears to taper in thickness from the back to blade edge suggesting they originally may have been cannel-shaped in cross-section (Hanson 1994:4). English, French, and Spanish traders sold hawkbill-bladed knifes on the eastern coast of North America between 1600 and 1680 (Hanson 1994:7). However, this blade type also occurs in 18th and nineteenth century contexts (Neumann and Kravic 1975:172; Stone 1974). The Yuchi Town specimens are identical to the Class I, Type 1, Variety D hawkbill clasp knife blades from Michilimackinac that are suggested to date between 1715 and 1781 (Stone 1974:264, 266).

Adornment

The adornment category is represented by Euro-American manufactured glass beads, silver earrings, and silver rings. Native American-manufactured or modified artifacts in this category include brass and iron pendants, brass tinkling cones, and a shell ear pin. Adornment items comprised 26.18% of all artifacts by functional category.

Beads

Forty one glass beads were recovered from soil flotation samples taken from test unit (n=20), feature (n=6), and burial (n=15) proveniences (Table 7-8). Bead size (based on diameter) included very small (1 to 2 mm; n=1); small (2 to 4 mm; n=20), medium (4 to 6 mm; n=7), and large (6 to 10 mm; n=12). Bead diameter ranged from 1.44 mm to 6.52 mm with a mean of 3.35 mm. Length ranged from 0.8 to 10.54 mm with a mean of 3.41. Bore diameter varied from a minimum of .56 mm to a maximum of 2.46 mm. The mean bore diameter was 1.44 mm.

Simple beads (those with only a single layer of glass) comprised 92.7% (n=38) of the beads recovered from the site (Table 7-8). Simple bead colors (based on visual identification) included turquoise (n=22), blue (n=1), dark blue (n=1), an iridescent dark blue (n=1), black (n=3), white (n=9), clear (n=2), amber (n=2), and two patinated beads that may have been amber. The predominance of turquoise within the sample is related to the recovery context of these items (Table 7-8). Fourteen of the turquoise beads were recovered from a flotation sample from a burial context where they probably formed part of a single necklace. Simple bead shapes included spheroid (54%), doughnut (42.3%), and barrel (3.7%) forms. Bead shape is related to length with doughnut-shaped beads being short, spherical beads being medium-sized beads, and barrel-shaped forms being long (Brain 1979:98). As such, the prevalence of spheroid and doughnut-shaped forms probably reflects the predominance of short and medium sized beads within the Yuchi Town sample. Simple bead manufacture methods included drawn (n=30; 78.9%) wound (n=2; 5.3%), and unknown (n=4; 10.5%). Two fragmentary sky blue or turquoise beads probably also originally were drawn beads. All of the intact simple drawn beads have rounded ends from being tumbled as part of the manufacturing process (Sprague 1991:42). One of the simple wound beads is a semi-translucent white barrel-shaped bead with one concave end and one convex end. Slight lipping is present around the circumference of the bore hole on the convex end of the bead. The other is an eroded translucent doughnut shaped blue bead.

The simple drawn bead forms represented within the Yuchi Town sample have been recovered from late seventeenth to early nineteenth century contexts throughout North America (Brain 1979; Deagan 1987:175, 177; Good 1972; Smith and Good 1982; Stone 1974). Brain (1979:102), however, suggests that the small black and dark blue bead forms (Brain's Varieties IIA5 and IIA6, respectively) were most popular or restricted to the period 1700-1740. Good (1972:117) similarly noted that the most prevalent drawn bead form at the Yuchi Town site--the turquoise forms--were considered a late seventeenth century form at the Dann site in Wisconsin although it also is present in 18th and nineteenth century contexts. Good (1983:165) notes that doughnut-shaped drawn turquoise beads have been recovered from 18th century Creek sites in Alabama and Georgia as well as nineteenth century Creek sites in Oklahoma.

The two drawn compound beads within the Yuchi Town sample are both variants of the Cornaline d'Aleppo bead type (Brain 1979:106; Good 1972:122). Both have three layers: (1) a translucent green interior; (2) a brick-red middle layer; (3) a clear exterior layer (Table 8). One of the beads is barrel-shaped while the other is collared (van der Sleen 1967:41) with slight

swelling present at both ends of the bead. Barrel-shaped Cornaline d'Aleppo beads have been recovered from late seventeenth to early nineteenth century contexts throughout North America (Deagan 1987: 168-169; Good 1972:122). Van der Sleen (1967:41) noted that collared beads are rare outside of India and Pakistan but provided no information regarding their period of use.

The single complex bead consists of a very dark green semi-translucent drawn bead that visually looks like a black bead (Table 7-8). Only through the use of an illuminated microscope was the translucent green nature of the bead apparent. A series of three curving inlaid red and white lines extend from one apex of the bead to the other. Very similar examples of this bead type were recovered from 1670-1730 and 1760-1770 contexts at the Rock Island site in Michigan (Mason 1986:191).

In sum, the Yuchi Town bead assemblage: (1) is dominated by simple drawn bead forms with compound and complex bead forms as a very minor part of the assemblage; (2) contains at least two bead varieties whose main period of use is believed to have been between 1700 and 1740. Other beads with longer periods of usage also are present.

Silver Earring

Approximately half of the ball to a silver earbob (specimen 133a) was recovered from TU 1 L-2 (Plate 7-8 c). Earbobs of this type consisted of balls with associated cones that were suspended from silver wires strung through the earlobe. Depictions of nineteenth century Native Americans indicate that both men and women sometimes wore dozens of these earbobs on a single ear (Fredrickson 1980:54-55).The Yuchi Town earring bob measured 7.7 mm in diameter. An elliptical attachment hole in one side of the bob measured 1.3 mm x 2 mm was present in one side of the ball.

Quimby (1966:91) dates silver trade ornament usage in the Great Lakes area to 1760-1830. Stone (1974:137), however, assigned a date range of 1730-1760 to large silver earbobs recovered from Ft. Michilimackinac which appear to be very similar in size to the Yuchi Town specimen. Silver earbobs continued in use in the fur trade until at least the latter part of the nineteenth century (Gilman 1982:72; Karklins 1992).

Silver Ring

A silver finger ring (specimen 128) was recovered from TU 3 L-1 (Table 7-1). The band and bezel of this ring were cast separately. The silver band measured approximately 0.5 mm thick by 1.9 mm wide. The diamond-shaped bezel measured 12 mm long by 11 mm wide. The plain-faced bezel is heavily worn. No trace of a design is present although it is possible that one was present at one time. Numerous very fine scratch marks, probably the result of normal wear, are present on the plain bezel face. The diamond shape, lack of decoration, and use of silver instead of brass distinguish the Yuchi Town ring from the "Jesuit" ring type commonly found on French-associated 18th century Native American sites (Cleland 1972; Brain 1979; Good 1972; Stone

1974). It may represent a British trade item specifically designed to compete with the Jesuit ring desired by Native American consumers.

Shell Ear Pin

The top of a hand-carved hexagonal-sided shell ear pin with a rounded top was recovered from TU 22 L-3 (Table 7-1; Plate 7-8 e). The shaft of the pin is broken immediately below the base of the pin head. The diameter of the pin head varied from 12.5 to 14.3 mm while the broken round pin shaft ranged from 7.1 to 7.9 mm in diameter. At least six growth (?) lines cross the head of the pin. This object appears to represent a busycon shell pin similar to that recovered from the late seventeenth to early 18th century Tunica-occupied Haynes Bluff site in Louisiana. Shell ear pins also were recovered from the Tunica-occupied Trudeau site (1731-1764) in Mississippi (Brain 1988:87, 243).

Brass Tinkling Cones

Three crudely-made tinkling cones (specimens 127a, 161, 161a) were recovered from the site (Table 7-4). Specimen 161 (Plate 7-3 b) is a complete tinkling cone that differs greatly in appearance from the conical brass objects interpreted as arrow points. It is manufactured from a single sheet of irregularly shaped brass that was loosely folded over to create a crude cone. The folded edges meet only near the open tip of the cone. The bottom of the tinkling cone is very irregular in appearance. The other two tinkling cones are bent and distorted but appear to originally have been similar in manufacture and appearance to specimen 161. Both are manufactured from irregularly shaped pieces of brass that were folded over to create crude cones.

Brass Pendants

Two drilled triangular pendants were recovered (Table 7-4). One (specimen 134, Plate 7-3 d) measures approximately 17.1 mm long by 15.4 mm wide at the base while the other (specimen 131, Plate 7-3 e) measures 20.7 mm long with a maximum width of 16.4 mm. The apex of the triangle on both pendants is blunted or flattened. Both have a single attachment hole located 2.6 to 5 mm below the apex of the triangle. Thickness (approximately 0.6 mm) also was identical for both pendants.

Perforated brass triangles recovered from other 18th century Native American sites in the midwestern (Good 1972:86, Mason 1986) and southeastern United States (Newman 1986:441) have been interpreted as arrow points. Such an interpretation does not fit the perforated triangles recovered from Yuchi Town which, as noted above, are quite thin and have intentionally flattened tips. Very similar perforated triangles interpreted as pendants were associated with 18th century Native American occupations at the Rock Island site in Lake Michigan (Mason 1986:31).

Iron Pendant

A single iron pendant (specimen 154) was recovered from TU 13 L-1 (Table 7-1, Plate 7-3 f). This pendant is identical to the perforated triangular brass pendants found at the site with the exception of material. The pendant is broken across the suspension hole which was located in the apex of the triangle. The pendant had a broken length of 22.7 mm with a basal width of 15.6 mm. Thickness varied from 1 to 1.7 mm.

Clothing

The clothing category comprised only 0.52% of all artifacts by functional category.

Button

The brass face to a two-piece hollow domed or convex button was recovered from TU 1 L-2 (Plate 7-8 a). Two stamped parallel lines encircle the button edge. The reverse side of the button that would have been soldered to the brass face is missing. However, this was most likely made of brass with a brass eye (Good 1972:133). The button measures 25.0 to 25.4 mm in diameter. The dome is approximately 8 mm deep. This specimen conforms to South's (1964:118) Type 2 button which was used by both the British and French military prior to 1768.

Similar buttons have been recovered from the Chota-Tannasee site in Tennessee where they were interpreted as reflecting Colonial military activity in the 1750s and 1760s (Newman 1986:423-424) and the 18th century Kaskaskia Indian village in Illinois (Good 1972:132-133). Plain-faced buttons similar to the Yuchi Town button but with different types of attachments have been recovered from the 18th century Tunica (Brain 1979:189; 190) and Haynes Bluff (Brain 1988:210) sites in the lower Mississippi valley.

Alcohol Use

Alcohol-related items consisted of green bottle glass, clear bottle or tumbler glass, and a decanter stopper. The alcohol category contained 7.85% of the artifacts recovered from the site.

Glass

The bottle glass assemblage is dominated by green (n=8) to dark green or black (n=4) bottle fragments (Plate 7-9 a, b, c; Table 7-9). Dark green bottles were used extensively in the 18th century to store wine, beer, and cider (Jones 1986:19; Munsey 1970:57-67). Green bottles also were used as serving bottles similar to decanters (Jones 1986:22-25). Yuchi Town green glass bottle parts included body (n=10), base (n=2), and kick (n=1) fragments. Pontil marks were not present on the two very small base fragments. The absence of mold or seam marks, however, suggests that the bottles were hand-blown. The basal fragments are very thick (7.5 to 11.9 mm), again suggesting they are parts of hand-blown bottles. The pronounced thickness of the basal

fragments suggests that they were part of large wine bottles known as demijohns or carboys (Munsey 1970:58). The bottle kick fragment is very thick (7.4-8.6 mm) and deep (at least 57.9 mm) as would be expected of a very large bottle (Plate 7-9b). Seven of the bottle fragments are either burned or partially melted. Six are burned on both the interior and exterior surfaces indicating that the bottle fragments were burned after the bottles they were once part of had been broken and discarded. One base fragment (specimen 171, Plate 7-9 a) is burned on the exterior only indicating that this particular bottle was still largely intact when it was exposed to fire. Four of the wine bottle fragments are heavily patinated on both their exterior and interior surfaces.

A small fragment of thick clear curved glass (specimen 174) could represent part of part of a goblet or bottle (Plate 7-9 d). Clear glass goblets and glasses were present along the coast of eastern North America during the late seventeenth and early 18th century (Noel Hume 1969a).

The clear lead-glass bottle stopper consists only of the tapered lower section that fit inside the decanter or bottle neck (Plate 7-9 g). A pontil scar is present on the base of the stopper. A second scar on the top of the stopper is the result of the breakage and loss of the upper portion of the stopper. Clear decanters or flagons with glass stoppers were manufactured by Bristol, England, glass houses from at least 1780 to 1840 (Munsey 1970:165). Lead-glass stoppers very similar in appearance to the Yuchi Town stopper also were recovered from ca. 1720 to 1775 contexts at Williamsburg, Virginia (Noel Hume 1969b:33).

Tobacco Use

The tobacco use category at the Yuchi Town site is represented entirely by kaolin pipe fragments. This category comprised 21.99% of all artifacts at the site by functional category.

Kaolin Pipes

Forty-eight kaolin smoking pipes were recovered (Table 7-10; Plate 7-10). These included stems (n=35), bowl fragments (n=11), and 2 bowl/stem fragments. All of the bowl fragments are plain with one exception (specimen 121, Plate 7-10 b). A partial design consisting of the lower half of an embossed circle containing six letters is present on this bowl. Although badly eroded, these letters appear to consist of "TIP" in the upper row and "PET" in the lower row. This is the monogram of the Bristol-based Robert Tippet family which produced kaolin pipes from the 1660s to the mid-eighteenth century (Peterson 1963:2; Walker 1971:73). The arrangement of the letters spelling the family name within the embossed circle varied through time. Walker (1971:73) assigns a date range of 1749/1750-1755 for Tippet pipes having the family name split into two equal groups of three letters distributed in two rows (TIP/PET). Stone (1974:148-149) assigns a much broader time range of 1740-1780 for this same monogram style.

One smoking pipe (specimen 301, Plate 7-10 a) was identifiable as to its original shape. This specimen consists of approximately one-third of a plain bowl with a flat square lip. Enough of the bowl is present to determine that it would have been oriented at an obtuse angle to the pipe stem.

Wilson (1966:33) defines pipes of this type as "Dublin" style pipes.

The mean borehole diameter dating formulae developed by Binford (1962) and Heighton and Deagan (1972) were used to date the pipe stem assemblage. Binford's (1962) formula produced a mean date of 1735.6 while that of Heighton and Deagan (1972) returned a slightly later date of 1738.8. Two pipe stems (specimens 45 and 143) had bore diameters two standard deviations greater than the sample mean of 5.13/64 in, possibly indicating that these two pipe stems date to the latter part of the seventeenth century or the very early 18th century.

Tooth marks are present on the ends of several of the pipe stems (Table 7-10) including one partial bowl with a broken stem (specimen 108a). The presence of tooth impressions at the end of the approximately 17 mm long pipe stem indicates that specimen 108a continued to be smoked until only a very small fragment of the stem remained.

Architecture

The architecture category is represented solely by iron nails. It should be noted that alternative interpretations of the functions of these artifacts are possible. The architectural category contained 2.62% of the artifacts recovered by the present investigations.

Iron Nails

Five hand-forged nails were recovered from the site midden (Table 7-11; Plate 7-11). Nails can have uses besides architecture. However, two of the nails (specimens 165 and 179, Plate 7-11 b and a, respectively) are so large that an architecture identification appears plausible. Both of these very large, thick nails have heads that extend beyond the edges of the shank. The shank tip also is missing on both nails. Facets from hammer blows are visible on two corners of the specimen 179 nail while one possible facet is visible on the specimen 165 nail. These nails are very similar to the large hand-forged nails recovered from the 18th century Guebert site in Illinois (Good 1972:Figure 40h-i). Two other nails from the Yuchi Town site (specimens 148 and 156) had heads that were equivalent to or slightly larger than the nail shaft. Specimen 148 is a rose-headed nail on which at least four facets are visible on the nail head (Plate 7-11 d). The shank is square or four-sided with a flattened tip. Specimen 148 is very similar to the Type 1, Variety A nail defined at Ft. Michilimackinac (Stone 1974:230-231). Specimen 156 is a bar-shaped nail with a squared-off shank tip that may have been reworked (Plate 7-11 f). It also is possible that this is a nail blank cut from a nail rod. Nail rods were long narrow bar-shaped iron rods that were cut into various sizes. Blacksmiths and their assistants then finished the tip and head of each nail by hand (Edwards and Wells 1993:7). If specimen 156 is a nail bar it suggests that either a blacksmith or someone skilled in iron working who could finish nails was present at Yuchi Town in the early 18th century. At least one facet is visible on the nail head.

Transportation

The transportation category consisted of a single item comprising 0.52% of all Euro-American artifacts recovered from the site.

Flowerkey Bell

Approximately one-half of the upper body of a large Key Type, Variety Flowerkey bell (Brain 1979:198) was recovered from Feature 60 (Plate 7-12; Table 7-12). The bell exterior has a dull silver or gun metal-like appearance dissimilar to that of brass. 18th century English and colonial bells often were made from "bell metal", a composition of 75 parts of copper to 25 parts of tin. Such tin-copper alloys had a superior sonorous quality and elasticity in comparison to other metals or alloys (Kaufmann 1968:169).

The Yuchi Town bell has a broken inverted V-shaped attachment handle. This appendage increased in width from 10.9 mm at the top of the handle to approximately 14 mm where it was attached to the bell surface. A series of lines or ridges that radiated from the base of the attachment handle divided the upper body of the bell into four sections. A 6.7 mm hole is present on the ridge separating two of the quadrants 6.8 mm below the attachment. A hole is not present on the other surviving ridge suggesting that there were only two holes on the upper body of the bell, one on either side of the attachment handle. Each quadrant contained three raised rosettes (two small and one large) distributed in two rows. The upper row in each quadrant contained a single large rosette while the lower row contained two small rosettes. As such, the upper portion of this bell originally would have been decorated with a row of four large rosettes located above a row of eight smaller rosettes. It is unclear how many petals were once present on the large rosettes which are represented by a single intact corroded specimen. However, ten to twelve petals appear to have been associated with each of the smaller rosettes.

The estimated diameter (ca. 60 mm) of the Yuchi Town specimen is much larger than that of the typical Flowerkey bell (Brain 1979:Table 13). However, a large Flowerkey bell that appears to have been virtually identical to the Yuchi Town bell was recovered from the Taksigi site (1717-1763) in Alabama. Brain's (1979:198) description of this bell would apply equally well to the Yuchi Town bell:

> Because of its large size, this bell has more flowers (twelve in the upper hemisphere, eight in the lower), which have up to twelve petals each. The configuration is also more complex, with two rows of flowers paneled by the ridges in each hemisphere. Apparently, the larger the size of a bell of this type, the more complex the design.

As of 1979 Flowerkey bells had been recovered from only six southeastern Native American sites with a combined date range of occupation of 1699-1765. Based on this, Brain (1979:198) suggested that the Flowerkey bell type dates primarily to the first part of the 18th century.

The large size of the Yuchi Town bell suggests that it may have been used as a horse bell. Noel-Hume (1978:58) notes that in 18th century colonial America, bells "the size of an orange" were hung around the necks of cows. Kaufmann (1968:182) similarly notes that bells two to four inches (50 to 100 mm) in diameter were used as horse or sleigh bells by American colonists. More specifically, William Bartram described the use of horse bells in a Creek trade caravan in the 1770s:

> "...every horse has a bell on, which being stopped when we start out in the morning with a twist of grass or leaves, soon shakes out, and they are never stopped again during the day. The constant ringing and clattering of the bells, smacking of the whips, whooping, and too frequent cursing these miserable quadrupeds, cause an incessant uproar, inexpressively disagreeable" (Braund 1993:93).

Other

The Other artifacts category included a broken iron tool tang, iron buckle parts, miscellaneous iron objects, brass preform, and unidentifiable glass, metal and brass fragments. The Other category comprised 8.88% of all Euro-American artifacts from the site by functional category.

Iron Tang

An approximately 65 mm long tang to a hafted iron tool (specimen 164, Plate 7-7 g) was recovered from TU 2 L-1. The tang end farthest from what would have been the working edge of the artifact has been intentionally bent at a 45 degree to the tang body. Bent tangs of this kind are sometimes associated with iron harpoons, razors, and knives (Jaeger 1945; Tankersley et al. 1993; Wheeler et al. 1975:72). The rectangular cross-section and small dimensions (7.0 mm wide by 4.6 mm thick) of the Yuchi Town tang suggest that it may have been once been the tang to a rat-tailed file. Jaeger (1945:169-170) notes that twentieth century Canadian Indians and Eskimos reworked iron files into crooked knives. The rat-tailed tang was heated and bent for insertion into a prepared socket in the wooden handle, preventing the iron tool from moving in the handle. The other end of the file was then ground down and bent at an angle opposite to that of the bent tang, creating a crooked knife. Although the Yuchi Town tang could represent part of such a knife it is equally possible that it simply represents the tang to a hafted file.

Buckle Parts

Two L-shaped iron buckle fragments (specimens 146 and 163, Plate 7-8 d and b, respectively) were recovered from TU 2. Both consisted of two sides of a four-sided buckle type. Specimen 146 measured 30.3 mm (long side) by 20.1 mm (short side). It was square in cross-section. The buckle frame varied from 3.5 to 5.5 mm in width. Specimen 163 measured 27.5 mm (long side) by 24.4 mm (short side). It also appeared to have a square cross-section. Buckle frame width varied from 4.4 to 5.5 mm. Both buckle fragments had the same frame thickness (4 mm) and

weight (3 g). The buckle fragments could represent either harness, clothing, or pack buckles. Both are similar to the Class 1, Series C, Type 6, Variety A iron buckle style from Ft. Michilimackinac that has a suggested 1740-1780 date range (Stone 1974:29). The hand-forged iron tongue buckle (specimen 147) was recovered from the same unit that produced the buckle frame fragments. This 34.9 mm long specimen has an oval head equal in diameter (3.6-5.4 mm) to the upper portion of the heavily flattened shank. The tip of the buckle varied in thickness from 1.6 to 4.1 mm. The recovery of all three buckle fragments from the same test unit raises the possibility that they represent parts of the same buckle. Although this indeed may be the case the three fragments do not fit together.

Braided Iron Loop

A single strand of iron wire twisted into a braid with a small loop at one end (specimen 151) was recovered from level 2 of Unit 1. The 2.2 mm thick artifact had a total length of 56.3 mm. The oval loop measured 20.2 mm long by 11.1 mm wide. The braided wire measured 40.4 mm long. This artifact possibly represents part of a small latch or catch.

Iron Wire

Two very thin iron wire fragments (specimens 147b and 147c) were recovered from TU 2 L-2. Thickness varied from 1.68 to 1.86 mm. Specimen 147b consisted of a straight section of wire measuring 32.4 mm long. Specimen 147c was bent at a right angle with a total length of 57.5 mm. Both specimens weighed less than 1 g. The function of this item is unknown.

Iron Tack

The single tack (specimen 149) from the site is very similar to Stone's (1974:233) Type 7 nail but has a much smaller roughly circular head (Table 7-11; Plate 7-11 e). It also is very close in appearance to 18th century tacks illustrated by Brain (1979:156) who suggested that they may once have been used in the construction of wooden chests.

Brass Preform

A triangular cut brass preform (specimen 152) for either a tinkling cone or conical arrow point was recovered from TU 13 L-1 (Table 7-4). The shape of the preform is that of an isosceles triangle (Plate 7-3 a). The lower portion of the preform is flattened while the upper portion near the tip is slightly folded. The specimen measured 46.9 mm long by 17.4 mm wide at the base. Thickness varied from 0.48 to 0.7 mm. Based on size, this object may have been a preform for one of the larger conical objects interpreted as possible arrow points.

Unidentifiable Iron

Two unidentifiable iron objects were recovered from TU 1 L-3. The first is a small wedge-

shaped object measuring 19.9 mm by 12. 7 mm. wide. The object (specimen 127c) is roughly triangular in cross-section, decreasing in thickness from a maximum of 7.2 mm on one of the long sides to 2 mm on the other. The second object (specimen 127d) consists of a 22 mm long tip to a pointed artifact. Maximum thickness and width values for this object were 8.6 by 5.5 mm, respectively. The tip is plano-convex in cross-section.

Unidentifiable Brass

Two very small fragments of unidentifiable brass artifacts were recovered in the soil flotation samples (Table 7-1). One is a portion of a curved band measuring 9.1 mm long by 1.6 mm wide by 1 mm thick. The second consists of a folded piece of brass resembling an antler tip. There is a seam on one side and the artifact is closed at the tip. This artifact measured 10.5 mm long by 2.5 mm wide at the base.

Unidentifiable Glass

Two pieces of flat glass (one clear and one aqua) unidentifiable as to function were recovered from TU 2 and TU 22 (Table 7-9). These two artifacts resemble window glass in appearance but it also is possible that they are flat sections of some other type of glass artifact. The clear glass object has what appears to be intentional retouch along the two long sides of the roughly triangular artifact (Plate 7-9 f). However, this artifact was recovered from the upper portion of the site midden (level 2) suggesting that what appears to be retouch could in actuality be plow damage. In addition, two very small pieces of clear glass shatter that may have been detached from this object were recovered from the same unit (TU 2 L-3) (Table 7-1)

Discussion

Chronology

The recovered artifacts indicate that the section of the Yuchi Town site sampled by the 1994-1995 USACERL investigations primarily dates to the early 18th century. Particularly notable is the absence of later artifact types such as late 18th and early nineteenth century creamware and pearlware ceramics or British-manufactured blade gunflints. Also notable is the low frequency (only two items) of silver ornaments which again is suggestive of an early 18th century placement for the site (Quimby 1966). The most convincing evidence that the Creek occupation dates to the early 18th century are the 1735.6 and 1738.8 dates derived through measurement of the pipe stem borehole diameters. A very similar mean date range of 1737-1745 was indicated for the glass bead assemblage with the exception of bead Variety IIA2 which has a mean date of 1763 (Brain 1979:101). Although some of the artifact types recovered at the site (most notably the beads) have periods of usage that extend from the late seventeenth to early nineteenth centuries others have temporal ranges primarily restricted to the early to middle 18th century. These include the various fragments of the Type G trade gun, the plain-faced uniform button, and the mimosa pattern delft plate.

Source of Trade Items

The majority of the assemblage is undoubtedly British in origin. The Creek received large quantities of manufactured items from the British as trade goods and presents from the late seventeenth to late 18th centuries (Braund 1993). Definite British items in the assemblage include the Type G trade gun parts, tin-glazed delft ceramics, and the kaolin pipe embossed with the monogram of a British pipe manufacturing family. The dark-colored spall gunflints also are probably British in origin. It also is possible that a minor part of the assemblage is French or Spanish in origin. During the early 18th century the French sought to cement political alliances with the Creek by supplying them with trade goods. Although this trade never reached the scale of that of the British and Creek deer skin trade, Creek hunters exchanged thousands of pounds of deer skin for trade goods at the French post of Fort Toulouse in the 1740s. Spanish goods could have been obtained from Spanish emissaries who visited Creek towns or by Creek war parties that raided Spanish holdings in Florida (Braund 1993:36, 38-39). One possible French-related item from the Yuchi Town site is the Flowerkey bell. Similar bells have been recovered from other early 18th century southeastern Native American sites occupied by groups with strong trade ties to the French (Brain 1979). The single French gun flint from the site could have been obtained directly through trade with the French or secondarily from the British. It also is possible that the single lead-glazed green coarse earthenware sherd from the site could have a French or Spanish origin but this is not certain.

Functional Analysis

Comparison of the recovered artifacts by functional category indicates that personal adornment, cooking and eating, hunting, and tobacco use were predominant site activities (Tables 7-13 and 7-14). The relatively low representation of alcohol-related items (7.85%) is notable given the descriptions of widespread alcohol use among the Creek during the early 18th century (Braund 1993:125-127). This suggests either that alcohol was dispensed by British traders from casks into serving vessels other than glass or that heavy alcohol use most often occurred in non-village contexts. The clothing, transportation, architectural, maintenance, digging/cultivation, grooming, fishing, and amusement categories form either a very low proportion of the Yuchi Town site functional assemblages or are completely absent. The very low representation (0.52%) of the clothing category is particularly striking as analysis of fur trade documents from the Great Lakes region have revealed that clothing was the predominant 18th century trade item (Anderson 1994:93-116). A similar situation existed in the Southeast where the barter between the Creek and Europeans "could have been termed the cloth trade as easily as the deerskin trade" due to the primacy of cloth as a trade item (Braund 1993:122). This suggests that archaeological assemblages from fur trade-related sites may present a distorted picture of the relative importance of certain categories such as Adornment which are represented by items that survive in the archaeological record (i.e., beads) while categories comprised of perishable items such as shirts, cloth, and blankets are underrepresented.

An intriguing aspect of the Yuchi Town Euro-American artifact assemblage is its restricted

nature. 18th century trade items supplied by the British to the Creek (Braund 1993:121-131) which are not represented in the Yuchi Town assemblage include agricultural and woodworking tools such as hoes and axes; sewing items including scissors, needles, and thimbles; grooming items such as razors; and adornment items including silver arm bands, bracelets, and gorgets; and war or hunting related items such as hatchets. Some of the variation between the Yuchi Town assemblage and 18th century trade lists is undoubtedly temporal. The heavy use of silver ornaments by Creek men and women as described by Braund (1993:125) is generally characteristic of late 18th and early 19th century Native American populations in eastern North American rather than early 18th century groups (Karkins 1992; Quimby 1966).

The absence of utilitarian items such as hoes, axes, and scissors within the Yuchi Town assemblage is more difficult to interpret. It may be that this absence reflects the persistence of Creek manufacture of stone tools for these purposes into the early 18th century. It also is possible that when these items broke they were recycled into new tool forms, resulting in the disappearance of the original categories from the archaeological assemblage. The recycling of European metal artifacts into new forms clearly was an important activity at the Yuchi Town site. When native-manufactured metal objects are deleted from the various finished artifact categories and placed in a separate metal working category the extent of this industry becomes evident (Table 7-13). Metal working rises to 11.51% of site activities by functional category while the adornment, hunting, cooking and eating, and other categories decline (Table 7-14). What this indicates is that worn-out brass kettles from the cooking and eating category as well as iron objects unidentifiable as to function were being recycled into new forms within the adornment and hunting categories. The Creek were using European artifacts obtained in trade as raw materials for artifact types that the traders would not or could not provide. These included brass and iron arrow points, iron and brass pendants, and tinkling cones.

Cultural Continuity and Change Among the 18th Century Creek

Cultural interaction between the Creek and Europeans during the 18th century primarily occurred within the context of the fur trade. Creek hunters exploited white tailed-deer and other fur bearing mammals for pelts that could be traded for European-manufactured goods. Licensed British traders occupied permanent posts within the Creek villages from which they dispensed manufactured items in return for these animal hides. Unlicensed traders also prowled the Creek back country, often using liquor as a tool to obtain hides at a fraction of their real value. Creek emissaries and warriors also periodically traveled to European settlements in eastern Georgia and northern Florida (Braund 1993).

White (1991:94-141) has argued that Native American use of Euro-American products must be viewed within the context of the social and political relationships that existed when these artifacts were in use. Recent studies of Native American societies engaged in the fur trade have revealed that while some cultures changed dramatically others exhibited social continuity throughout the history of their involvement of the fur trade. Rather than entirely abandoning traditional culture, many Native American groups accepted certain technological items while

rejecting social and religious aspects of European culture. Although certain material culture items such as ceramic pots may have been replaced by metal kettles, other aspects of the society continued relatively unchanged (Morantz 1992; Trubowitz 1994). Within the last decade the fur trade has increasingly come to be viewed as a system of reciprocal interaction between Native American and European societies in which Native Americans made active decisions regarding cultural influences they would accept (Branstner 1992:196; Wagner 1996).

The small size of the Yuchi Town Euro-American artifact assemblage limits the inferences that can be drawn regarding culture contact between 18th century Europeans and Creeks. However, these data appear to indicate that cultural interaction between Europeans and the Creek within the social context of a Creek village was marked by a combination of continuity, change, and resistance upon the part of the Creek. Although the replacement of certain native-made tools by European ones is certainly indicative of some degree of change these new items often were used in the continuance of traditional activities. The iron hoes that eventually replaced stone hoes, for example, were used to carry out traditional Creek rather than European forms of agriculture. Continuity and change among the 18th century Creek also are indicated by the presence of a metal working industry in which artifact forms once manufactured out of bone and chert (personal ornaments and arrow points) continued to be manufactured by native artisans but out of metal. Although material preference in regard to these objects may have changed through time artifact function remained the same (Bradley 1987:166-174). Conservatism or resistance upon the part of the Creek to European influences may be reflected by the low representation or absence of the agriculture, clothing, woodworking, grooming, transportation, and architecture categories. Although the clothing category is undoubtedly underrepresented due to the nonpreservation of fabric clothing items it is notable that nonperishable European clothing items (buckles, buttons, and shoe parts) known to have been traded to the Creek (Braund 1993:125) form less than 1% of the artifacts from the site by functional category. This suggests that during the early 18th century at least the style of dress within Creek society was traditional rather than European in appearance despite Creek utilization of manufactured cloth.

In sum, the Yuchi Town Euro-American artifact assemblage suggests that the Creek reaction to European contact during the early 18th century was a selective process in which Creek individuals and groups made active choices regarding cultural influences they would accept on the basis of utility, preference, and availability (Branstner 1992). As did other Native American societies the Creek selectively replaced certain artifact types with Euro-American forms but in many cases the function and context of use remained the same (Wagner 1996). While traditional activities such as stone working may have declined new industries such as metal-working appeared. Although culture contact did result in selective material culture change among the Creek, other aspects of Creek society including ideology, social organization, and lines of political authority continued relatively unchanged throughout the early 18th century (Braund 1993).

Table 7-1. Historic Artifact Inventory, Yuchi Town Site

	Block A				Block B					Block C							Block D					Total	
	TU1	TU2	TU5	TU7	TU3	TU4	TU6	TU9	TU17	TU8	TU11	TU11	TU15	TU18	TU21	TU22	TU13	TU14	TU19	TU20	TU23	N	%
	L1	L1	L1	L1	L1	L2	L1	L1	L1	L1	L1	L2	L1	L3	L1	L2	L1	L1	F57	L2	L1		
Artifact Type																							
HUNTING																							
Gun Parts	3	2	2							1							2	3				13	6.81
Gunflints			1	2			1			4	1				1		1					11	5.76
Lead musket ball								1							1							2	1.05
Arrow points		1						1							1		1					4	2.09
COOKING/EATING																						0	0
Ceramics	3		1	1				2		3							1	2				13	6.81
Kettles	1	2	1					1		1					1'		2				1	10	5.24
Iron Knives		3	1	3						1												8	4.19
ADORNMENT																						0	0
Beads	1		1		5	2		1	16	4	2	2	1	1	1	2			1	1		41	21.5
Silver ornaments	2																					2	1.05
Brass ornaments	1	3															1					5	2.62
Iron ornaments																	1					1	0.52
Shell ornaments																1						1	0.52
CLOTHING																							
Button	1																					1	0.52
TRANSPORTATION																							
Flowerkey Bell									1													1	0.52
ALCOHOL USE																							
Green bottle glass	4	4	3															2				13	6.81
Clear bottle/tumbler		1																				1	0.52
Lead glass stopper		1																				1	0.52
TOBACCO USE																							

Kaolin pipes	9	6	3	1	1	4	1		6	6					2			2			1	42	22
ARCHITECTURE																							
Iron nails			2		1					1			1									5	2.62
OTHER																							
Iron objects	1	6			1																	8	4.19
Unidentifiable	2	3				1				1						1						8	4.19
TOTAL	28	32	15	7	8	7	2	6	23	22	3	2	2	1	7	4	9	9	1	1	2	191	
%	15	17	8	4	4	4	1	3	12	12	2	1	1	1	4	2	5	5	1	1	1		0

Notes: Feature and looter hole totals are subsumed within the unit in which they were contained.

Table 7-2 Yuchi Town Trade Gun Lockplate Observations*

Provenience	Unit 1, Block A, Level 3	
Length	140.5 mm	5.53 in
Width (max)	21.7 mm	1.08 in
Cross Section	Flat with Beveled edges	
Bottom Edge	Moderate Curve	
Mainspring ledge, length	51.3 mm	2.02 in
Lockscrew holes	3	
Location of Center Hole	Behind mainspring ledge	
Flashpan	Rounded, integral with lockplate	
Tumbler	Unbridled	

Note: Observations and definitions follow Hamilton (1968)

Table 7-3. Gunflint Observations

Spec	Type	Length	Width	Thick	Wt (g)	Color	X-section	Plan View	Translucent	Origin
56	Spall	25	22.9	6.9	5	2.5Y 2/0 black to 6/2 lt bwn gray	PC/wedge	Rect	Partial	British (?)
57	Blade Core	24.9	22.6	8.8	4	10YR 5/6 yellowish bwn	Triangular	Asym	Yes	French
58	Spall	32.8	21	7.8	6	7.5YR 3/0 very dark gray	PC/wedge	Hemisph	Yes	British Native (?)
59	Bifacial	20.9	17.5	8.4	3	2.5Y 2/0 light brownish gray	Biconvex	D-Shaped	Yes	Native
60	Spall	22.8	20.5	7.6	4	2.5Y 2/0 black to 6/2 lt bwn gray	PC/wedge	Square	Partial	British (?)
96	Spall	17	16.9	5.8	2	2.5Y 2/0 black to 5/2 grayish bwn	PC/wedge	Square	Yes	British (?)
97	Spall	22.7	16.4	8.8	4	2.5Y 3/0 very dk gray to 6/2 lt bwn gray	PC/wedge	Rect	Yes	British (?)
98	Spall (?)	21	19.7	8.5	4	10YR6/1 mott gray to 10YR7/1 lt gray	PC	Assym	No	British (?)/ Native
99	Spall	23.6	20.1	7.8	4	2.5Y 2/0 black to 6/2 lt bwn gray	PC/wedge	Trapezoid	Yes	Amer British (?)

Note: Spec = Specimen; Length, Width, and Thick in mm; PC = Plano Convex.

Table 7-4 Native American Worked Brass Artifacts, Yuchi Town Site

Provenience	Bag	Spec	Length	Width	Thickness	Wt	Form	Artifact Type
TU 1, L 3	15	127	31.2	8.2	0.82	2	Twisted open cone	Tinkler
TU 1, L 4	19	136	44.4	36	0.34	3	Irregular	Cut scrap
TU 2, L 1	2	161	26.6	8.2	0.62	1	Open cone	Tinkler
TU 2, L 1	2	161a	20	7.5	0.56	1	Twisted open cone	Tinkler
TU 2, L 4	45	131	20.7	16.4	0.6	1	Perforated triangle	Pendant
TU 3, L 3	33	134	17.1	15.4	0.58	1	Perforated traingle	Pendant
TU 5, L 1	12	141	42.2	9.1	0.74	4	Sealed cone	Arrow point
TU 5, L 1	12	142	29.7	12.6	0.84	2	Triangular	Cut scrap
TU 5, L 1	12	143	23.8	8.1	0.52	1	Irregular	Cut scrap
TU 5, L ?	69	132	17.7	11.4	0.4	1	Perforated irregular	Torn scrap
TU 8, L 1	148	139	45	30.1	0.64	3	Irregular	Kettle mend patch
TU 9, L 1	158	158a	23.5	22.6	0.6	1	Irregular	Torn scrap
TU 13, L 1	227	152	46.9	17.4	0.7	2	Isosceles triangle	Preform
TU 13, L 1	227	153	19.7	15.4	1.28	1	Triangle	Arrow point
TU 13, L 1	227	153a	15.4	13.6	0.44	1	Irregular	Torn scrap
TU 21, L 1	356	137	41	25.2	0.6	2	Irregular	Cut scrap
TU 22, L 1	382	154	34.4	7.7	0.58	2	Sealed cone	Arrow point
TU 23, L 1	425	138	40	25.8	0.4	2	Irregular	Cut scrap

Note: Length, width and thickness measurements are maximum values in mm; wt = weight in grams.

Table 7-5 Tin-Glazed Ceramics, Yuchi Town Site

Provenience	Bag #	Spec	Sherd Type	Ext Glaze	Int Glaze	Paste	Thick	Wt	Decoration
TU 1, L 1	6	185	Body	Blue-white	Exfoliated	Buff	3.56	1	Hand paint dk blue leaves, lt blue line
TU 1, L 4	19	184	Body	Gray-white	Gray-white	Buff	4.41	1	Hand paint dk blue leaves
TU 1, LH 713	3	186	Body	White	White	Buff	5.4	1	Hand paint dk blue lines
TU 9, L 1	158	183	Body	Off-white	Off-white	Salmon	4.29	1	

Table 7-6 Stoneware and Earthenware Ceramics, Yuchi Site

Proven	Bag #	Spec	Sherd Type	Exterior	Interior	Paste	Thick	Ware	Variety
TU 8, L 2	156	192	Body	5YR 5/3 olive	5YR 5/3 olive (g)	2.5Y 7/2 pale yel	9.5	LGE	Unknown
TU 13, L 1	227	187	Body	2.5Y 6/2 light brownish gray	7.5YR 6/3 lt brown (g)	10YR 7/1 lt gray	6.1	SGS	Unknown
TU 19, L 1	158	182	Body	10YR 7/1 light gray	10YR 7/1 light gray (g)	10YR 7/1 lt gray	4.6-5.4	SGS	Westerwald
TU 8, L 1	148	188	Body	10YR 6/1 lt gy to 10YR 5/6 yel bwn	10YR 7/6 yellow (s)	10YR 7/1 lt gray	5.7	SGS	Bellarmine
TU 5, L 1	75	191	Body	2.5Y 8/3 pale yellow	2.5 8/3 pale yellow (g)	2.5Y 8/3 pale yel	5.2	SGS	Unknown
TU 19, L 1	355	190	Base/Body	2.5 Y 7/2 light gray	7.5YR 7/4 pink (s)	2.5Y 7/2 lt gray	7.8-10.4	SGS	Unknown
TU 19, L 1	355	189	Body	2.5Y 7/0 to 2.5YR 7/6 yellow	5YR 7/4 pink (s)	2.5Y 6/0 gray	7.4	SGS	Unknown

Notes: Spec = Specimen; SGS=Salt Glazed stoneware; LGE=Lead Glazed stoneware; (g)=glazed; (s)=slipped.

Table 7-7 Yuchi Town Knife Observations

Proven	Bag #	Spec	Form	Shape	Max Width	Max Length	Back Edge Thick	X-Section	Weight
TU 5 L 1	75	180	Blade	Hawkbill/Sheepshead	14.86	55.12 (bk)	2.4	Straight	6
TU 7 L 1	140	199a	Blade, bolster, haft	Rectangular haft	13.9	10.6 (bk)	2.22	Wedge	10
TU 7 L 1	140	199b	haft	Rectangular (?)	17.7 (b)	30.9 (bk)	?	Straight	4
TU 7 L 1	140	199c	Blade	Hawkbill/Sheepshead	15.7	53.3 (bk)	3.12	Straight	9
TU 2 L 2	?	144	Blade, bolster, haft	?	15.4	64.22 (bk)	3.8	Wedge	20

Notes: bk=broken; ?=observation not taken; length, width, and thickness in mm; weight in grams.

Table 7-8. Bead Observations.

Provenience	Bag #	Type	Form	Color	Shape	Width	Length	Bore Diameter	Translucence	Good (1972)	Brain (1979)	Mason (1986)	Date Range	Mean Date
TU 11, L 2	231	Drawn	Simple	Turquoise	Sphero	5.64	4.12	1.54	Semitrans	Type 90	Var IIA7		1600-1836	1737
TU 11, L 2	231	Drawn (?)	Simple	White	Dough	2.76	1.36	0.62	Opaque		Var IIA1		1600-1836	1739
Feature 65	405	Drawn	Simple	Iridiscent dark blue	Dough	2.89	1.7	1	Opaque		IIA6 or IIA7		1600-1890	1737, 1739
TU 17, Burial?	431	Drawn	Simple	Turquoise	Sphero	6.1	5.92	2.2	Semitrans	Type 90	Var IIA7		1600-1836	1737
TU 20, L 2	397	Drawn	Simple	White	?	4.34	?	?	Opaque		Var IIA1(?)		1600-1836	1739
TU 4, L 3	83	Drawn	Compound	Clear/Red/Green	Barrel	3.72	2.96	1.1	CE/OML/TI	Type 127a	Var IVA2		1600-1836	1727
Feature 20	134	Drawn	Simple	Turquoise	Dough?	4.34	?	1.92	Semitrans		Var IIA7(?)		1600-1836	1737
TU 3, L 2	22	Drawn	Simple	White	Dough	2.88	2.2	0.76	Opaque		Var IIA1		1600-1836	1739
TU 3, L 2	22	Drawn	Simple	Black	Dough	3.14	2.04	0.64	Semitrans	168-169	Var IIA5		1600-1890	1745
TU 3, L 2	22	Drawn	Simple	Turquoise	Dough	2.48	1.54	1.2	Semitrans	Type 92	Var IIA7		1600-1836	1737
Feature 57	372	Drawn (?)	Simple	Turquoise	Dough	2.56	0.92	0.94	Semitrans	Type 92	Var IIA7		1600-1836	1737
TU 8, L 2	157	Drawn	Simple	White	Tubular	2.2	1.76	0.56	Semitrans		Var IIA1		1600-1836	1739
TU 1, L 5	36	Drawn	Simple	Black	Dough	2.96	1.46	0.94	Opaque	168-169	Var IIA5		1600-1890	1745
TU 3, L 3	34	Drawn	Simple	Black	Dough	3.18	1.74	1	Opaque	168-169	Var IIA5		1600-1890	1745
TU 3, L 6	125	Drawn	Simple	White	Dough	2.76	1.74	0.56	Opaque		Var IIA1		1600-1836	1739
TU 22, L 2	409	Wire	Simple	Turquoise	?	3.14	2.16	0.94	Semitrans	Type 92	Var IIA7		1675-1838	1737
TU 22, L 2	409	Drawn	Simple	White	Barrel	5.15	4.24	1.18	Semitrans	Type 90	Var IIA7		1650-1830	1737
Burial 1	429	Drawn	Simple	Sky Blue	Sphero	6	5.32	2.2	Semitrans	Type 90	Var IIA7		1650-1830	1737
Burial 1	429	Drawn	Simple	Sky Blue	Sphero	6.3	5.14	2.1	Semitrans	Type 90	Var IIA7		1650-1830	1737
Burial 1	429	Drawn	Simple	Sky Blue	Sphero	6.1	5.1	1.74	Semitrans	Type 90	Var IIA7		1650-1830	1737
Burial 1	429	Drawn	Simple	Sky Blue	Sphero	5.96	5.16	2.08	Semitrans	Type 90	Var IIA7		1650-1830	1737
Burial 1	429	Drawn	Complex	Dk green, red & white stripes	Sphero	8.96	10.54	1.84	Semitrans			Var IIbb7	1670-1770	
TU 8, L 5	194	Drawn	Simple	Dark blue	Dough	4.78	2.38	2.46	Semitrans		Var IIA6		1600-1890	1749
Burial 1	417	Drawn	Simple	Turquoise	Sphero	6.52	6.06	2	Semitrans	Type 90	Var IIA7		1650-1830	1737
Burial 1	417	Drawn	Simple	Turquoise	Sphero	6.1	5.78	2.08	Semitrans	Type 90	Var IIA7		1650-1830	1737
Burial 1	417	Drawn	Simple	Turquoise	Sphero	6.18	5.48	1.9	Semitrans	Type 90	Var IIA7		1650-1830	1737
Burial 1	417	Drawn	Simple	Turquoise	Sphero	6.1	6.08	2.5	Semitrans	Type 90	Var IIA7		1650-1830	1737
Burial 1	417	Drawn	Simple	Turquoise	Sphero	6.08	5.63	2.22	Semitrans	Type 90	Var IIA7		1650-1830	1737
Burial 1	417	Drawn	Simple	Turquoise	Sphero	?	?	?	Semitrans	Type 90	Var IIA7		1650-1830	1737
Burial 1	404	Drawn	Simple	Turquoise	Sphero	6.8	6.3	2.12	Semitrans	Type 90	Var IIA7		1650-1830	1737
Burial 1	404	Drawn	Simple	Turquoise	Sphero	6.02	5.12	2.12	Semitrans	Type 90	Var IIA7		1650-1830	1737
Burial 1	404	Drawn	Compound	Clear/Red/Green	Collared	5	5.16	1.74	CE/OML/TI	Type 126			1600-1836	
TU 5, L 2	94	?	Simple	White	Dough	1.44	2.9	0.76	Opaque	Type 107a				
TU 8, L 4	164	Wound	Simple	Blue	Dough	2.26	1.16	0.8	Translucent					
TU 9, L 2	174	?	Simple	White	Dough	2.46	1.56	0.68	Opaque	Type 107a				
TU 15, L 3	308	Drawn	Simple	Turquoise	Dough	2.12	0.8	0.86	Translucent	Type 92	Var IIA7		1600-1836	1737

Table 7-9 Glass Artifacts, Yuchi Site

Provenience	Bag #	Spec	Len	Wid	Thick	Wt	Color	Artifact Type	Comments
TU 1, L 3	15	166a	35.2	27.2	3.56-3.72	6	Green	Bottle glass	Partially Melted
TU 1, L 3	15	167	57.9	50.6	7.4-8.6	33	Dark Green	Bottle kick	Heavily pat
TU 22, L 2	408	173	44.9	28	3.16	7	Clear	Unknown	Retouch (?)
TU 14, L 1	252	168	56.2	30	5.04-5.64	16	Dark Green	Bottle glass	Burned
TU 1, L 4	19	165	52.4	31.6	2.68-4.42	9	Green	Bottle glass	
TU 1, L 4	19	165a	33.2	22.9	3.52-3.76	4	Green	Bottle glass	Partially melted
TU 5, L 1	75	117	56.5	36.9	11.6-11.9	42	Dark Green	Bottle base	Burned
TU 5, L 1	75	117	30.8	25.6	4.3-5.6	5	Green	Bottle glass	Partially melted
TU 5, L 1	75	117	30.5	21.4	5.2	4	Green	Bottle glass	
TU 2, L ?	12	169	45.7	38.6	4-6.2	18	Green	Bottle glass	
TU 2, L ?	12	170	46.5	24.2	7.5-10.3	13	Dark Green	Bottle base	Burned
TU 2, L 3	31	174	37.4	16.6	4.3-6.5	7	Clear	Bottle glass	
TU 2, L 3	31	174a	20	6.8	1.96	>1	Aqua-Blue	Unknown	
TU 2, L 3	31	174b	7.9	6.4	3.54	>1	Clear	Unknown	Fragment
TU 2, L 3	31	174c	9.8	6.1	2.92	>1	Clear	Unknown	Fragment
TU 14, L 2	276	175	25.8	23.4	2.6-3.8	4	Green	Bottle glass	Heavily pat & burned
TU 2(?), L 1	425	172	20.9	20.7	2.3	1	Green	Bottle glass	Heavily pat
TU 2(?), L 1	425	172a	36.4	N/A	17.9-20.9	31	Clear	Bottle stopper	Broken

Notes: Len = length in mm; Wid = width in mm; Thick = thickness in mm; Wt = weight in grams; Pat = patinated.

TU 17, L 5	352	?	Simple	Amber?	Dough	2.46	1.72	0.76	Translucent		Var IIA2(?)			
TU 18, L 3	358	Drawn	Simple	Amber	Dough	3.04	1.96	1.84	Translucent		Var IIA2		1700-1890	1763
TU 18, L 3	358	Drawn	Simple	Clear	Dough	2.46	?	1.96	Translucent					
TU 21, L 2	376	Drawn	Simple	White	Dough	3.29	1.51	1.4	Opaque	Type 107a	Var IIA1		1600-1836	1739
TU 21, L 3	388	?	Simple	Amber?	Dough	2.34	1.5	0.76	Semitrans		Var IIA2(?)		1700-1890	1763

Notes: Length = distance in mm between ends; Width = distance in mm across center; Simple = one layer of glass; Compound = two or more layers of glass; Complex = with appliques or insets; Semitrans = semitranslucent; Sphero = spheroid; Dough = doughnut shaped; ? = incomplete observation due to erosion or breakage; CE/OML/TI = clear exterior, opaque middle layer, translucent interior;

Date ranges from Brain (1979), Good (1972), and Mason (1986); Mean dates from Brain (1979).

Table 7-10 Kaolin Smoking Pipes, Yuchi Town Site

Provenience	Bag	Spec	Artifact	Len	Wid	Thick	BDm	BDin	Wt	Comments
TU 14, L 2	276	120	Bowl frag	17	15	3.2			1	
TU 14, L 2	276	120a	Stem	17.2	14.4	4.3			1	
TU 9, L 1	158	118	Stem	27.3	6.7-7.7		1.96	4.93	1	
TU 5, L 1	69	111	Stem	12.8	6.5-6.6		1.97	4.96	1	
TU 4, L 2	46	110	Stem	20.9	6-6.8		2	5.04	1	
TU 4, L 2	46	110a	Bowl frag	21.2	15.4	3.1-3.2			1	
TU 4, L 2	37	108	Stem	30.3	9.5-10.5	1.8	1.79	4.51	4	Tooth marks
TU 4, L 2	37	108a	Stem	35.3	6.8-7.1		1.97	4.96	3	Possible tooth marks
TU 1, L 1	6	103	Bowl frag	16.6	11.8	2.8			2	
TU 1, L 1	6	103a	Stem	30.8	7.4-8.3		1.7	4.28	2	
TU 1, L 1	6	103b	Stem	30.8	7.4-8.1		2	5.04	2	
TU 17, L 1	355	122	Stem	40	6.7-8.3		2.04	5.14	3	Tapered pipe stem
TU 17, L 1	355a	122	Stem	36.3	7.7-7.9		2.3	5.79	3	
TU 17, L 1	355b	122	Bowl frag	28	14.8	2.3			1	
TU 17, L 1	355c	122	Bowl frag	23.8	16.4	3-3.2			2	
TU 24, L 2	437	126	Bowl frag	27.9	13.7	2.1-3.2				
TU 21, L 1	356	123	Bowl/Stem	19.7	10.5		1.99	5.01	3	
TU 17, L 2	331	121	Bowl frag	20.8	15.4	3				Embossed design
TU 6, L 1	74	112	Bowl frag	14.4	12.1	3.4-3.6				
TU 13, L 1	227	119	Stem	28.4	7.6-8.2		2.2	5.54	2	
TU 13, L 1	227	119a	Stem	23.4	8.2-10.7		2.2	5.54	2	
TU 1, L 4	19	106	Stem	22.8	6.3-6.6		2.4	6.04	1	
TU 1, L 4	19	106a	Stem	30.9	5.8-6.9		2.18	5.49	1	
TU 1, L 4	19	106b	Bowl frag	16.9	12.7	2--2.2			1	
TU 1, L 4	19	106c	Bowl frag	42.9	20.1	3.1-4			1	
TU 1, L 3	15	105	Stem	41.9	6-7.6		2	5.04	2	
TU 8, L 1 (?)	143	115	Stem	34.7	9.5-9.6		2.51	6.32	4	
TU 4, L 2	45	109	Stem	26.2	6.3-7		2.52	6.34	1	Weathered
TU 2, L 1	2	102	Stem	25.9	7.8-8.5		2.1	5.29	2	
TU 2, L 1	2	102a	Stem	27.5	8.6-10		1.95	4.91	3	
TU 2, L 1	2	102a	Stem	16	6.9-7.3		1.99	5.01	1	Tooth marks
TU 7, L 1	40	114	Stem	6.7-7.3			1.92	4.83	1	
TU 1, L 1?	35	107	Stem	24.5	8.3-9.1		1.97	4.96	2	Possible tooth marks
TU 1, L 1	35	107a	Stem	20.1	6.9-8		1.95	4.91	1	
TU 5, L 1	75	113	Stem	20.8	7.4-7.5		2.02	5.08	1	
TU 5, L 1	75	113a	Stem	15.5	6.4-6.9		1.95	4.91	1	
TU 8, L 1	148	116	Stem	26.1	7.1-8.4		2.25	5.66	2	
TU 2, L 2	17	104	Stem	25	7.9-11.1		1.76	4.43	3	
TU 2, L 2	17	104a	Stem	31.5	7.7-9.9		2	5.04	3	Tapered pipe stem
TU 22, L 1	382	124	Stem	20.2	7-8.5		1.8	4.53	2	
TU 8, L 1	152	117	Stem	41.5	7.5-8.6		1.68	4.23	3	
TU 8, L 1	152	117a	Bowl frag	14.3	12.3	2.2			1	
TU 3, L 1	5	101	Stem	30.2	6.4-7		2.1	5.29	2	

Notes: Len = length in mm; Wid = width in mm; Thick = thickness in mm;
BDm = bore diameter in mm; BDin = bore diameter in 1/64 inches;
Bore diameter based on either one measurement or average of largest and smallest values if diameter is variable; Mean bore diameter = 5.13 / 64 in; Standard deviation = .521;
Mean date = 1735.6 (Binford 1962); 1738.8 (Heighton and Deagan 1972).

Table 7-11. Description of Nails and Tacks

Provenience	Bag	Spec	Head Shape	Length	Shank Width Below Head	Shank Width at Tip	X-Section	Wt	Comments
TU 15, L 1	275	155	Trapezoid	51.5	8.1-8.6	6.9-7.0	Square	20	Hand-forged nail
TU 15, L 1	275	156	Square	61.9	5.6-6.5	4.9-6.7	Square	12	Hand-forged nail, 1 facet on head
TU 3, L 2	21	148	Square	51.1	4.5	2.7-3.1	Square	5	Hand-forged nail, rose head
TU 3, L 2	21	149	Square	12.7	3.18-3.22	N/A	Square	<1	Tack
TU 5, L 1	15	179	Rectang	51.9	8.6-11.7	7.2-9.0	Rectang	26	Hand forged nail, faceted head

Notes: Length and widths in mm; Wt = weight in grams;

Table 7-12 Yuchi Town Flowerkey Bell Dimensions

Height of Bell	ca 55 mm
Height of Attachment Handle	10.7 mm
Width, Base of Attachment Handle	ca 14.5 mm
Width, Top of Attachment Handle	10.8 mm
Diameter, Hole in Attachment Handle	4 mm
Diameter, Hole of Upper Body	6.8 mm
Diameter of Large Rosette	9.5 mm
Diameter of Small Rosette	7.3 mm
Thickness of Bell Wall	1.4-2.20 mm

Notes: ca = estimate

Table 7-13. Historic Artifact Types by Functional Category

HUNTING	COOKING AND EATING	ADORNMENT	TOBACCO USE	ARCHITECTURAL
Gun Parts	Brass kettle parts	Glass beads	Kaolin Pipes	Nails
Lead shots	Tin-glazed ceramic vessels	Silver finger ring		
Gun Flints	Earthenware vessels	Silver earring		
Iron arrow point	Stoneware vessels	Shell ear pin		
Brass arrow point		Brass tinkling cones		
		Brass pendant		
		Iron pendant		
TRANSPORTATION	METAL WORKING*	OTHER	CLOTHING	ALCOHOL USE
Flowerkey bell	Cut and worked brass scrap	Iron wire	Button	Green bottle glass
	brass tinkling cones	Iron tack		Glass decanter stopper
	brass arrow point	Iron buckles		
	brass pendant	Braided iron loop		
	iron arrow point	Iron tang		
	iron pendant	Unident iron		
		Unident glass		
		Unident brass		

Notes: Functional categories follow Anderson (1994:105) with the exception of architectural, metal working, and other;
*Artifacts in this category are also represented in the hunting, cooking and eating, and adornment categories.

Table 7-14 Proportion of Functional Categories, Yuchi Town Site

Functional Category	Without Metal Working	With Metal Working
Adornment	26.18	19.37
Metal Working	0	11.51
Hunting	16.75	13.61
Alcohol Consumption	7.85	7.85
Cooking and eating	16.23	10.99
Tobacco Use	21.99	21.99
Architecture	2.62	2.62
Clothing	0.52	0.52
Transportation	0.52	0.52
Other	8.38	8.38

Notes: Functional categories based on Anderson (1994:105) except for metal working, architecture, and other; All Native American-worked metal items deleted from finished form functional category and placed in metal working.

Plate 7-1. Gun Parts. Top: a-d, Middle: e, Bottom: f-k.

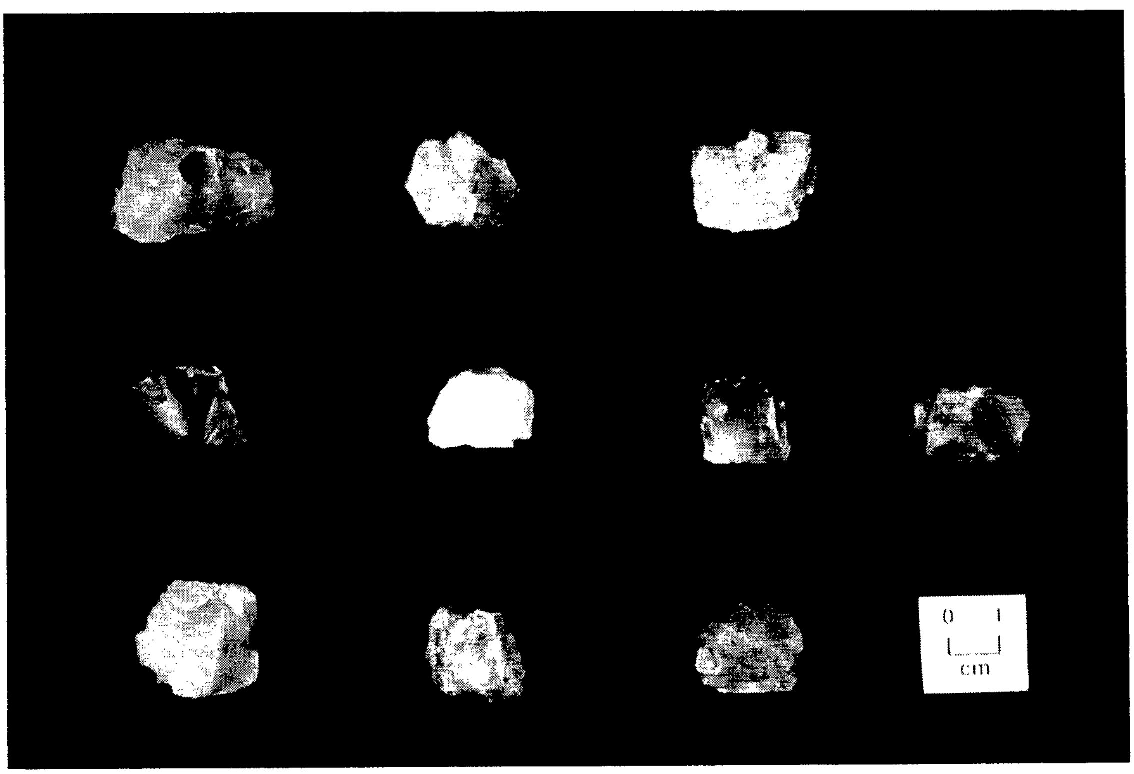


Plate 7-2. Gunflints. Top: a-c, Middle: d-g, Bottom: h-j.

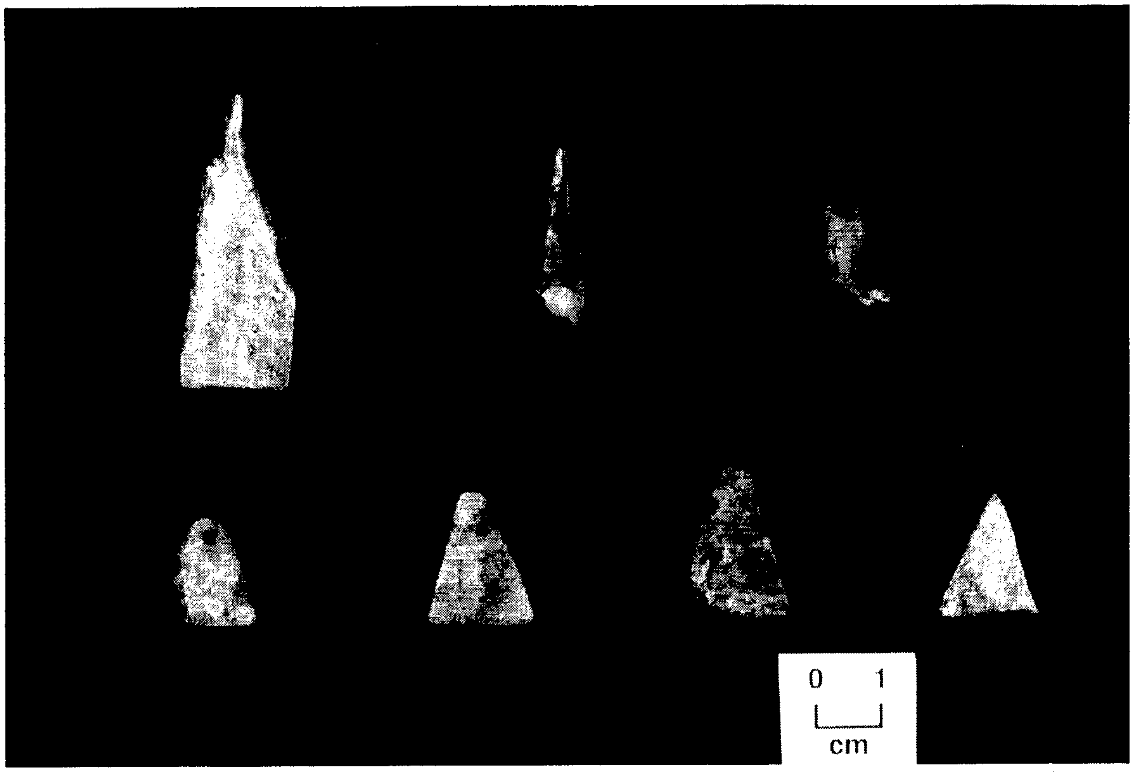


Plate 7-3. Arrow Point, Tinkling Cone, Pendants, and Preform. Top: a-c, Bottom: d-g.

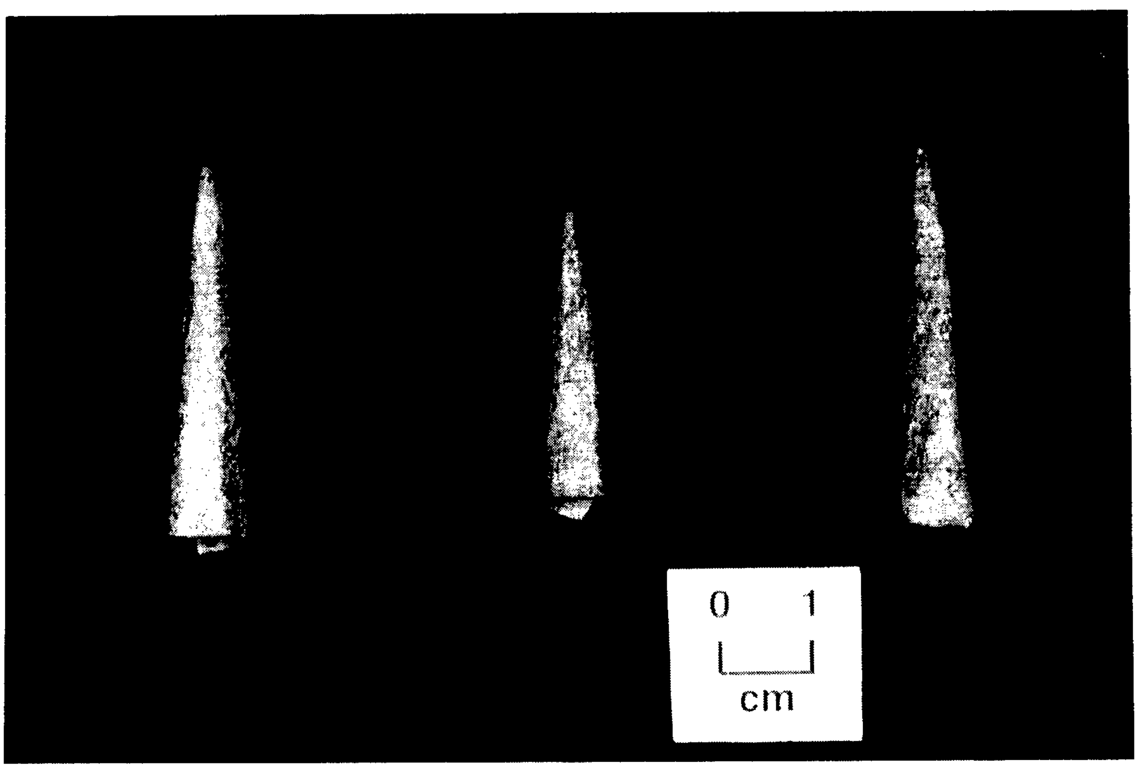


Plate 7-4. Brass Arrow Points. a-c.

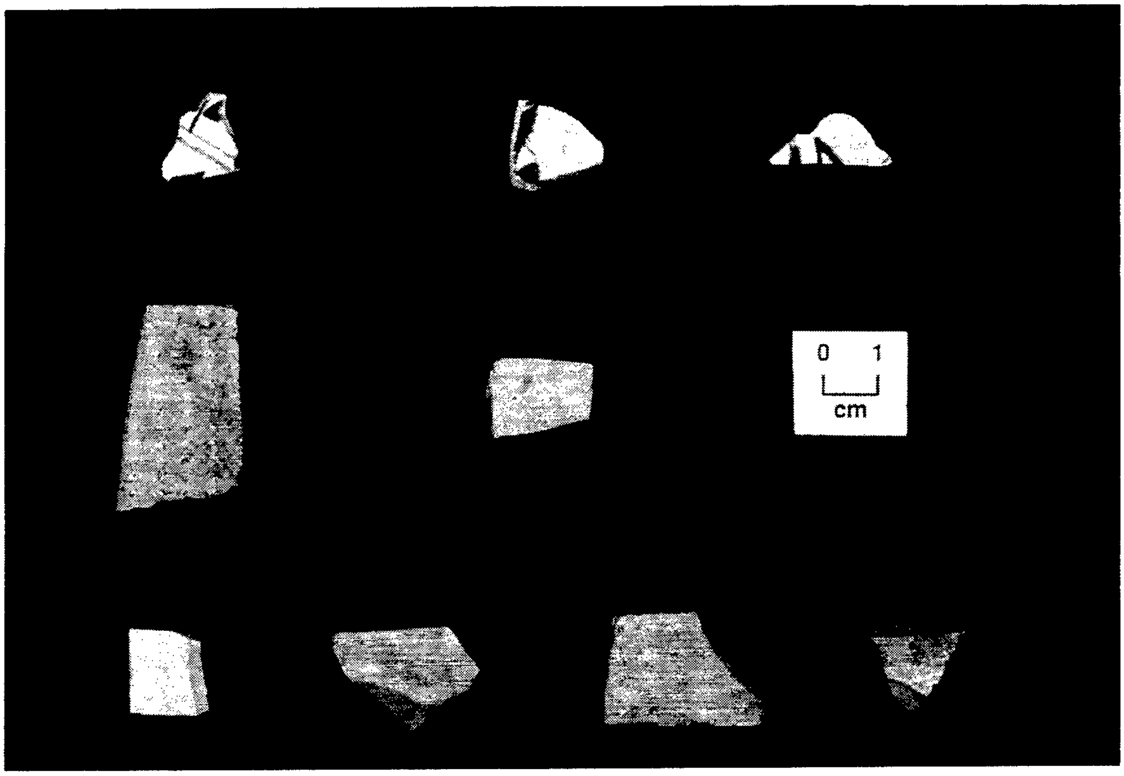


Plate 7-5. European-Made Ceramics. Top: a-c, Middle: d-e, Bottom: f-i.

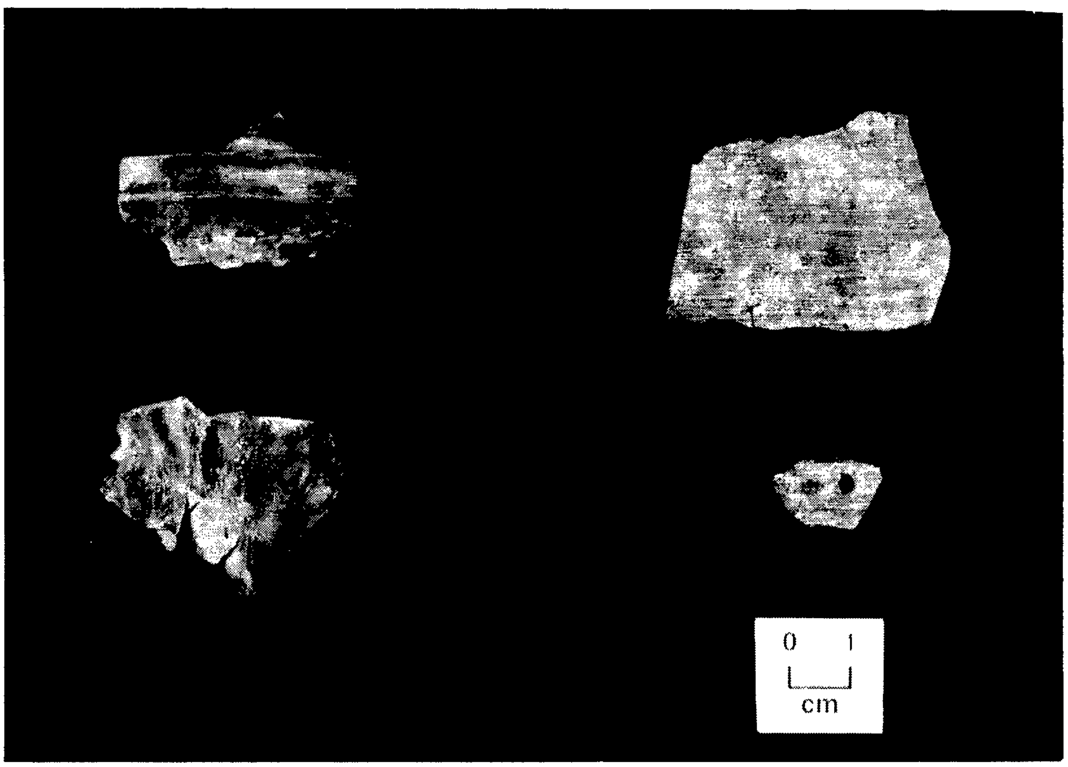


Plate 7-6. Brass Kettle Mend Patches. Top: a-b, Bottom c-d.

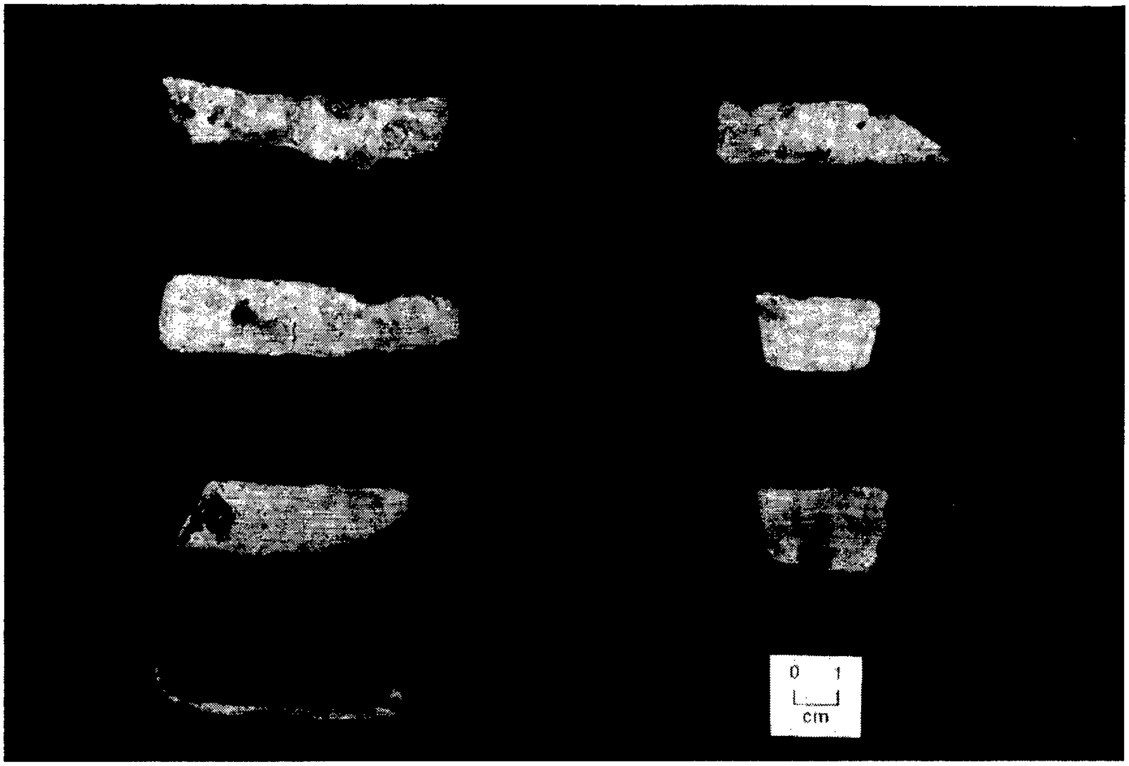


Plate 7-7. Iron Knives and Tang. Top: a-b, Second: c-d, Third: e-f, Bottom: g.

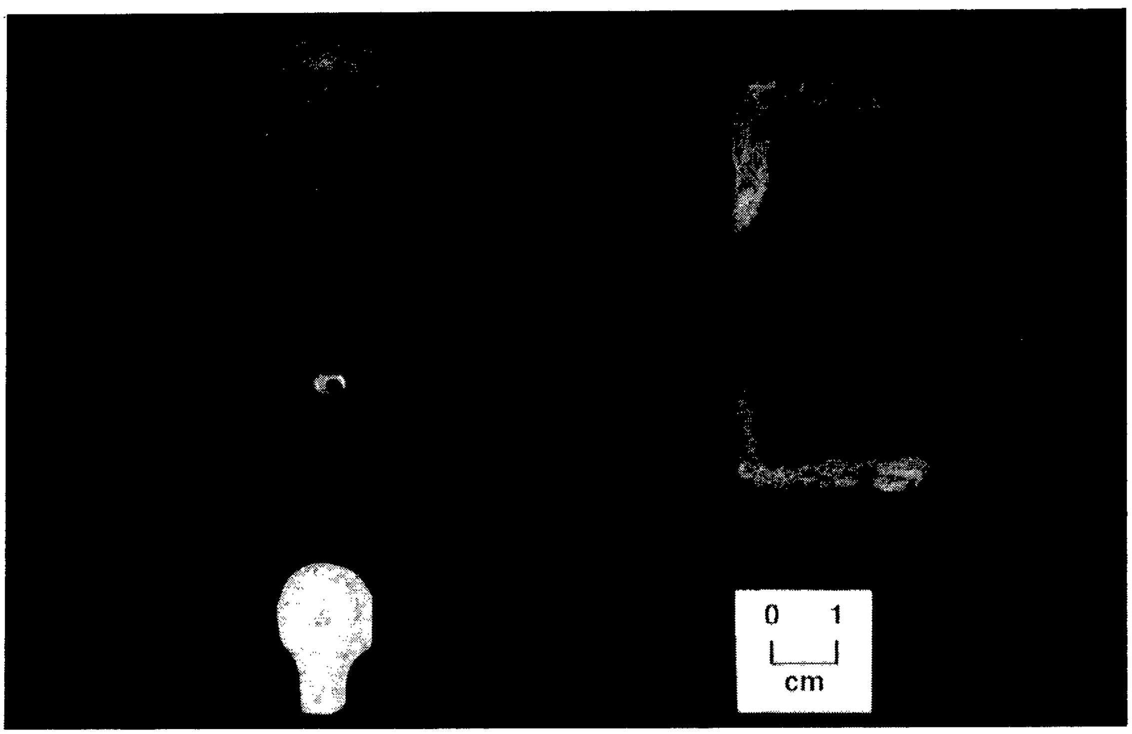


Plate 7-8. Brass Button, Buckle Parts, Silver Earring, Shell Pin. Top: a-b, Middle: c-d, Bottom: e.

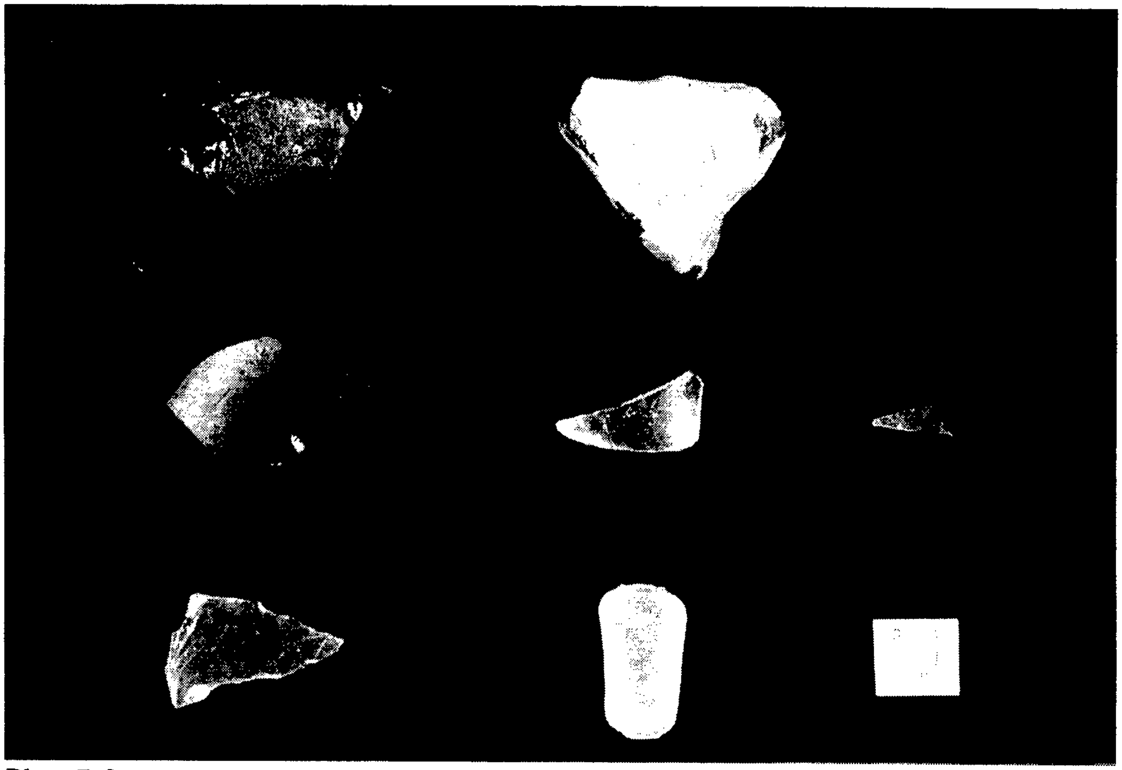


Plate 7-9. Bottle Glass. Top: a-b, Middle: c-e, Bottom: f-g.

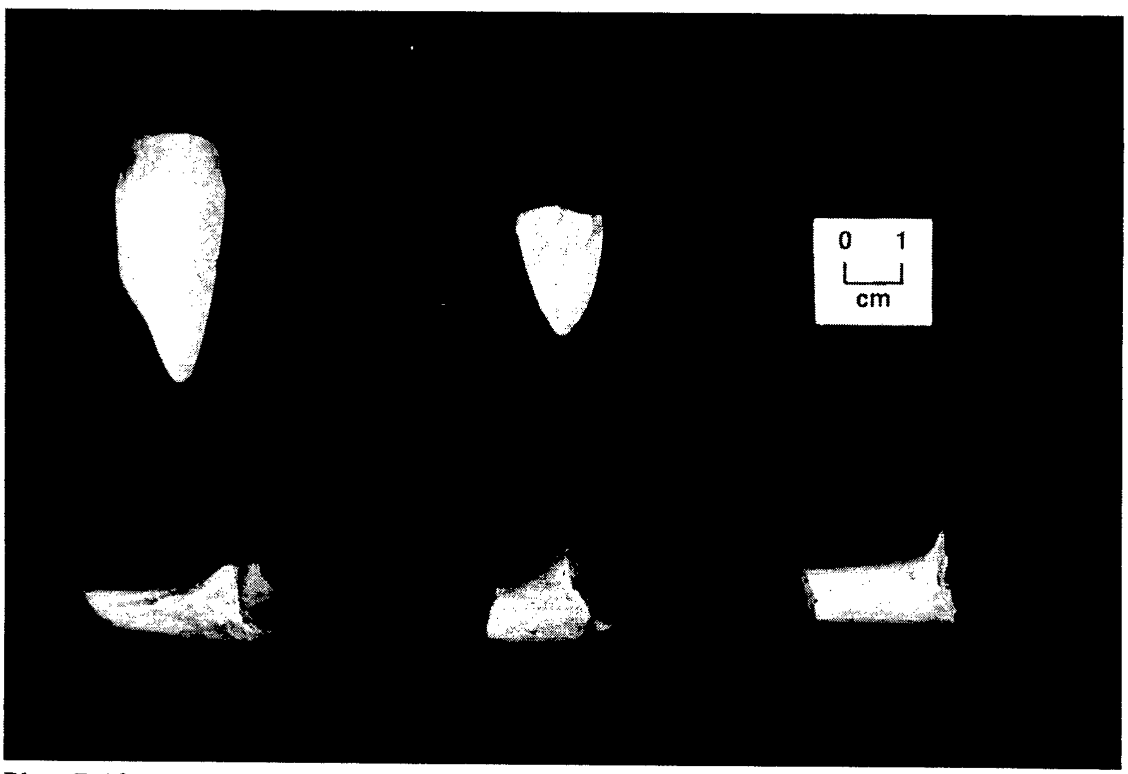


Plate 7-10. Kaolin Pipes. Top: a-b, Bottom: c-e.

Plate 7-11. Iron Nails. Top: a-e, Bottom: f.

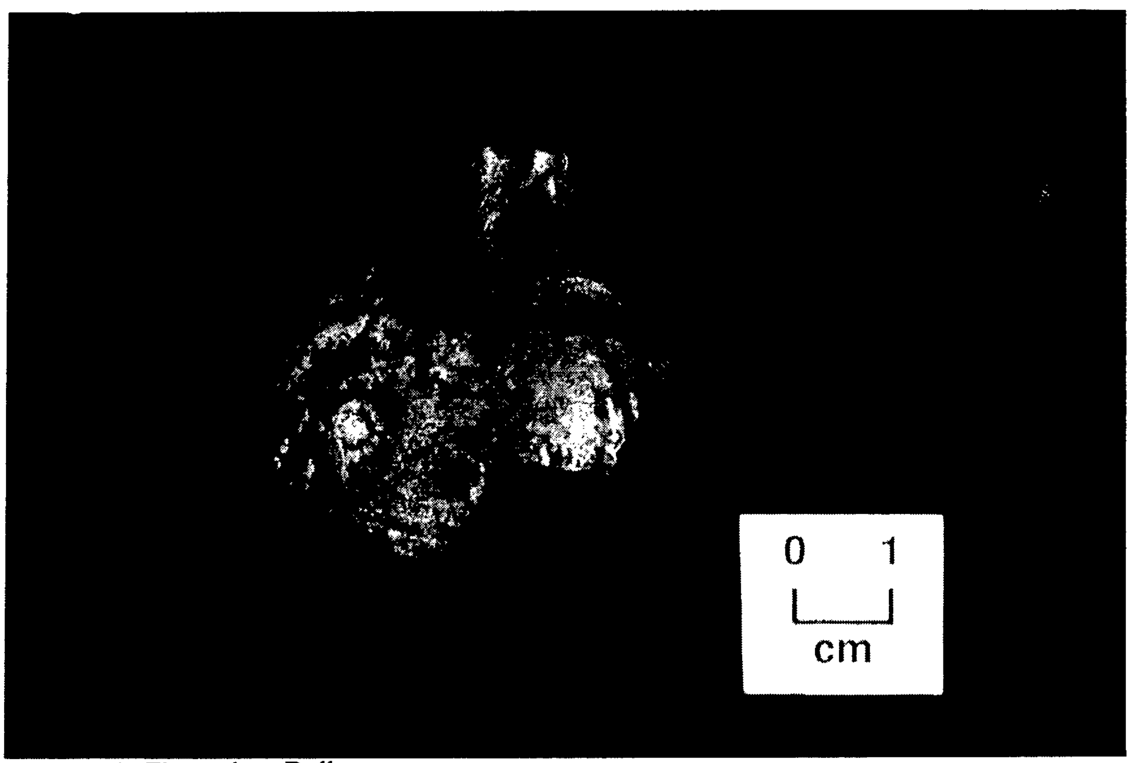


Plate 7-12. Flowerkey Bell.

Chapter 8
Archaeobotany

Lee A. Newsom and Laura Ruggiero

Archaeobotanical samples derived from the 1994-1995 USACERL excavations at Yuchi Town were analyzed for evidence of economic patterns and general plant use by Native American occupants of the site. This particular study represents the first systematic analysis of archaeobotanical remains from the site, and is one of the few conducted of plant remains from historic sites in the lower Southeast (see Ruhl 1993). Previous excavations at Yuchi Town, while not specifically concerned with the recovery of archaeobotanical materials, did indicate some potential for this type of research by documenting the presence of wood posts, smudge pits filled with maize cobs, and burned thatch remains (Braley 1994:17).

Yuchi Town is located on the west back of the Chattahoochee River on a broad river terrace. The extant vegetation surrounding the site is predominantly mixed hardwood forest, interspersed with pine woodland. A moderate understory of shrubs and herbs occurs throughout; wild grape and other lianas are common in areas with open canopy conditions. The 1994-95 excavations documented the presence of various features and house structures associated with the later occupations of the site, specifically the Blackmon Phase (A.D. 1625-1715) and the Lawson Field Phase (A.D. 1715-1835), the later being the period when Yuchi people were present. Archaeological plant remains were recovered from throughout these deposits, including features identified as postholes, post-like stains, pits, and house structures. Several samples were retrieved from a house designated Structure 1, and material that may derive from a second house (Structure 3) also underwent analysis. For analytical purposes, the entire assemblage of plant remains is here considered together as representative of a roughly 200-year interval spanning approximately A.D. 1625 to 1835.

Some aspects of Yuchi Town settlement and plant use are illuminated by ethnohistoric accounts. Reiterating from Bartram's report of his 1791 visit to Yuchi Town, Speck (1909:38) indicates that the settlement was relatively large and populous, with many well built wood-frame houses. Each house typically was accompanied by a yard that included areas reserved specifically for a dooryard garden, where plants like tobacco were tended, and open space to grind maize (Speck 1909:18, 41). The Yuchi of the time were typical of other southeastern Indian agriculturists (see Hudson 1976:289-313). Gardens were maintained for vegetables and staple crops just beyond the confines of the town. Each spring these garden patches were cleared with fire in preparation for crop production (Speck 1909:18). Maize was the definitive staple crop, and apparently particularly important was a flint race of maize (Speck 1909:18). Other plants regularly cultivated in Yuchi gardens included beans, sweet potatoes, melons, pumpkins, squashes, and gourds. Wild plant foods, including hickory nuts and various berries, were mentioned also as consistent dietary supplements.

Sample Recovery and Selection

Archaeobotanical samples were recovered in two forms, including (1) direct or in situ collections of individual specimens and (2) sediment samples of various volumes, depending on the relative size of the deposit sampled. In situ collections consisted of individual plant specimens, such as an intact maize cob or large fragments of carbonized wood, that were visible upon exposure by excavation and removed directly from the deposits as each was encountered. This procedure ensured that potential damage to individual specimens associated with recovery and subsequent handling was kept to a minimum. The sediment samples that were collected in conjunction with the in situ specimens were recovered using a general blanket sampling procedure (Pearsall 1989:95-96). This method is intended to recover an adequate sample of archaeobotanical specimens--many of which are not apparent without the aid of magnification--from as many individual site contexts as possible (e.g., basin fill, postmolds, etc.). Thus, each distinct cultural context was sampled by removal of one or more complete, that is, whole and unsieved, sediment samples. Original sediment sample volumes ranged from .5 to as much as 12 liters.

A total of 124 archaeobotanical samples was recovered from the 1994-1995 excavations. A subset of 48 samples, including 35 sediment and 13 in situ samples, was selected for analysis (Table 8-1). This particular group of samples was chosen from among the entire assemblage because it included samples representative of the full range of contexts sampled, and was judged among the best for analysis based on the relative densities of carbonized remains and the overall integrity of the deposits. Samples associated with Structure 1 were derived from the general fill within the confines of the house basin, several postholes and sections of probable wall or roofing material, a hearth, and some pit features (Table 8-1). Samples from other areas of the site included material from additional postholes, possible storage pits, material from a wall trench, burnt debris associated with Structure 3, and several cob-filled pits. The cob pits, also commonly known as "smudge pits," are highly specialized depositional contexts associated primarily with late prehistoric and early historic sites in the eastern United States. The pits typically contain abundant maize remains and often, but to a much lesser extent, bits of pine cone, bark, nut shell, and occasional seeds. For the most part, these are materials that smolder and produce copious smoke when they burn, hence the name smudge pits. Several functions--for example, hide curing and insect control--have been suggested for smudge pits (Binford 1967; and see Scarry 1992).

All sediment samples underwent water flotation using a modified SMAP-type flotation system (see Pearsall 1989:32-35). The resulting light and heavy fractions were allowed to dry slowly, after which they were bagged and forwarded to the archaeobotanical laboratory at the Center for Archaeological Investigations, Southern Illinois University, for further processing and analysis. In situ collections of plant specimens were placed directly in foil pouches, bagged, and sent to the laboratory for analysis.

Analysis Methods

All samples were processed and analyzed according to standard archaeobotanical methods and procedures. The entire contents of separate flotation fractions from the sediment samples were first weighed, then passed dry through graduated soil sieves with mesh openings sized 4 mm, 2 mm, 1 mm, and 0.42 mm. The size grading facilitates sample processing and analysis, with materials in the 4 mm and 2 mm sieve fractions then sorted completely into material classes (e.g., wood, seeds and other plant materials, bone, artifacts). The finer fractions (1 mm and 0.42 mm) were sorted only for identifiable seeds. All sorting and partitioning of sample fractions was accomplished using a dissecting microscope. Once completely sorted, the individual archaeobotanical components--wood, maize, nutshell, seeds--were weighed and counted separately.

Seed and nut identifications were made based on morphological characteristics with reference to modern comparative specimens and using pictoral guides to seed identification. Maize (*Zea mays*) remains were analyzed and classified following Bird (1994) and King (1987). All measurements were made using a dissecting microscope and with a manual-dial caliper. Cob attribute data were collected using complete cob cross sections and focusing on cob midsections; cob length is the length of the actual cob fragment, not an estimate of original cob length. Cupule measurements were taken from cob midsections and do not include individual isolated cupules.

Wood identifications were made based on anatomical details in three-dimensional perspective, using specimens from the 4 mm and 2 mm size classes and a dissecting microscope with enhanced magnification in combination with a compound microscope. Keys to anatomical structure (Record and Hess 1942-1948; Wheeler et al. 1986), seconded by comparison with modern specimens were used to identify wood specimens. All identifications were compared also against regional floristic data (Barbour and Christensen 1993; Radford 1968; Thorne 1993) and were pursued to the lowest possible taxon. Generally wood identification is limited to family or genus due to inherent constraints of wood anatomy.

A few additional details concerning the identification process need mention. The designation "cf." in the text and tables that follow indicates that a particular specimen identifies very strongly with a given taxon, but that it was not possible to further resolve the match to make an exact identification. The lack of a definitive identification may be due to inadequate specimen size, an insufficient number of specimens (i.e. wood fragments) to glean all necessary anatomical or morphological details, poor preservation, or inherent constraints of wood anatomy or seed identification (particularly with regard to taxonomic groups that contain large numbers of species or genera, e.g. the grass family).

Results of Analysis

Summary data for the Yuchi Town flotation samples are provided in Table 8-2. The

samples are grouped in the table by feature type beginning with cob-filled pits, followed by general pits or shallow basins, then hearth, house basin, and finally postholes and wall trench.

In general, maize, wood and nut shell are ubiquitous, appearing in every or nearly all samples. Greater than 50,000 individual specimens of maize were identified, including kernels, cobs, cob fragments, cupules, and cupule fragments. Nut remains, specifically hickory shell fragments, while present nearly throughout the sample assemblage, are never abundant (1.1 gram or less; last two columns of Table 8-2). Samples with the greatest amounts of nut remains, though still quite low, are the pit features (Features 23, 40, and 57). Relatively few plant remains are associated with the postholes and possible postholes, but consistently present are small fragments of carbonized wood, maize remains, and nut shell. Plant remains are most sparse among the hearth sample (Feature 21, bag 190), the possible posthole Feature 7 (bag 44), and posthole Feature 48 (bag 4) (Table 8-2).

The five pit features described as maize cob pits--Features 12, 24, 33, 63, and 71--are very distinctive. These contained considerable quantities of maize remains, with as much as 44 grams per liter of sample (Table 8-2, column showing maize densities). A sixth pit (Feature 20) was also categorized during the excavations as a maize cob pit, but subsequent laboratory analysis revealed that it contained considerably less maize relative to the other cob pits. Feature 20 may still have functioned as a cob or smudge pit, the difference being that it was not as intensively used or perhaps reflects the vagaries of burning and preservation (thus, a smaller quantity of maize specimens survived the burning process in this particular pit relative to other cob pits). In addition to the general abundance of maize remains, the cob pits as a group produced overall the greatest concentrations of plant materials, particularly wood (this reflected also the greater light and heavy fraction totals) (Table 8-2).

The entire spectrum of plant identifications from the Yuchi Town samples is shown in Table 8-3. Garden species are represented by four taxa: common bean, maize, and two members of the gourd/squash family, including *Cucurbita* sp. (pumpkins, squashes, and small gourds) and bottle gourd.

A few seeds were identified to the genus *Chenopodium* sp., commonly referred to as chenopod. Chenopod is grouped in Table 8-3 under wild plant foods, but it is possible the seeds represent cultivated plants. *Chenopodium* spp. has a long history of association with the indigenous eastern North American "starchy seed complex" (Smith 1992:110-181). Even though the seeds recovered with the Yuchi Town samples are not from the definitively domesticated morph (*Chenopodium berlandieri*), it is nevertheless possible that they represent plants that were cultivated and perhaps were polymorphic and/or were grown in mixed chenopod crops (see Lopinot 1994:138).

Wild plant foods identified among the samples include nuts (hickory and acorn), fresh fruit (persimmon, huckleberry, maypop, and elderberry), and small grains or greens (chenopod, panicoid grass, purslane) (Table 8-3) (see Duke 1992:68-69, 88-89, 104-105, 156-157, 176-

177, 180-181; Halls 1977:132-150, 157-193). Some of the plant species grouped as ruderal (members of the weed or successional flora) may also have had some economic importance to the site's inhabitants, or their presence in the deposits may be purely incidental, (the result of natural seed rain and similar processes).

The wood identifications supplement the list of plants used at the site. Individual wood specimens were classified as belonging to one of several distinctive anatomical groups including the true hickories (e.g., pignut hickory), the southern hard or yellow pine group (e.g., longleaf and slash pine), the red (including black) oaks (e.g. red oak, shummard oak), and the white oak group (e.g. overcup and white oak). Also recognized among the samples were tentatively identified persimmon and an unidentified diffuse porous hardwood (similar to maple, *Acer* spp.) (Table 8-3).

Classified under the heading "other" (Table 8-3) are cane stem and additional monocotyledonous stem fragments that could be either additional cane or fragments of maize stalk. Two seed types, designated Types 3 and 4 (Table 8-3) and represented by one specimen each, are unidentified. Seed Type 3 is possibly a grass or sedge; Type 4 is spherical, small (ca. 1.5 mm diameter) and the seed coat has evenly distributed, circular indentations. Unspecified fragments of relatively thick seed coat may belong to members of the palm family, for example, saw palmetto, cabbage palm, and related species.

Modern seeds were also recovered with the sediments sampled (Tables 8-2 and 8-3, bottom). The majority are herbaceous members of the local weed flora (e.g., copper leaf and pigweed). Seeds representative of a pair of damp-ground species (wax myrtle and knotweed) are present, as are seeds identified as sweetgum and grape (a tree and native liana, respectively, that are generally associated with more mesic woodlands). The presence of modern seeds in the samples is not problematic, particularly since there are no species in common with the carbonized seeds that are reliably associated with the archaeological components. Several of the modern taxa may have been growing on and around the site prior to and during the excavations and could have become incorporated into the deposits when the ground cover was cleared and/or while the excavation units were open and subject to represent plants that were cultivated and perhaps were polymorphic and/or were grown in mixed chenopod crops (see Lopinot 1994:138).

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The distributions of non-wood (seeds, maize, nut, and small stems) plant remains among the Yuchi Town flotation samples is shown in Table 8-4. Maize and hickory nut fragments are frequent, as is apparent from the general sample weights (Table 8-2). Ubiquity is a measure designed to overcome the problem, in view of specimen fragmentation, of relying on counts (which may be highly inflated) to compare among samples. The occurrence of a given taxon is scored as present for each context in which it appears, and the combined number of occurrences is then expressed as a percentage of the total number of contexts analyzed, regardless of the total number of individual specimens (for example, if hickory appears in 10 of 20 features, it has a ubiquity score--representing its overall occurrence across the site--of 50) (see Popper 1988:60-64). By this measure, maize is the most ubiquitous plant taxon among the Yuchi Town deposits, appearing in 84 percent of the contexts analyzed (refer to the last column in Table 8-4). Hickory is second in frequency of occurrence, with a ubiquity score of 64 (20 proveniences). Purslane seeds are third in terms of ubiquity, having been recorded in 9 proveniences (29 percent ubiquity). Acorn and chenopod both have ubiquity scores of 13 (4 contexts each). The rest of the plant taxa occurred in three or fewer of the contexts analyzed. Remains assigned to the gourd/squash family were recovered in three

samples; bean, maypop, and grass family appeared in two samples each; finally, elderberry, huckleberry, panicoid grass, persimmon, and most of the taxa assigned to the ruderal group appeared in single samples (and as one specimen each [Table 8-4]).

It was noted earlier that the cob-filled pits (Features 12, 24, 33, 63, and 71) are conspicuous for their large quantities of maize remains. Feature 46, a carbon concentration, also produced a relatively large quantity of maize. Aside from maize and small fragments of wood, and with the exception of Feature 63, the cob pits produced few other types of plant materials, ranking relatively low in terms of overall species diversity (no more than two additional non-wood taxa appear among these samples; Table 8-4). Feature 63, in contrast, is relatively species rich, having produced evidence of eight separate taxa. This particular cob pit yielded abundant maize remains, as well as seeds identified as elderberry, chenopod, huckleberry, panicoid grass, purslane, and two additional ruderal species (Table 8-4). Feature 40, described as having possibly been a pit or shallow basin, also proved to be relatively diverse of species; eight taxa were identified, including bean, gourd/squash, and maize, as well as acorn, chenopod, hickory nut, purslane, wild bean, and a fragment of thick seed coat (Table 8-4). Thus, the samples and contexts analyzed typically produced a combination of cultivated and wild plant types. Maize dominates the assemblage overall; beyond that, there is fairly even representation of other plant foods--both domesticated and wild.

All maize represents a single species, but the gene pool is diverse and there are many distinct races and numerous maize cultivars. The various races and their associated cultivars differ by genetic and morphological traits (see Bird 1994; Doebley 1994; Goodman 1994). Particularly useful to archaeobotanical research are race and, to some extent also, cultivar-specific characteristics of the ear that are retained when cobs are burned. Thus, it is sometimes possible to determine what type of maize and whether more than one cultivar was grown through analysis of cob and kernel attributes. Moreover, as Scarry (1992) points out, maize cultivars differ from one another in their tolerance of soil and climatic conditions, in the length of time between sowing and harvesting, and in the uses for which their grains are best suited (e.g. to be popped; for long-term storage; to be ground into flour; or harvested immature, in the green state to be consumed as a vegetable or for transformation into maize "milk"). Therefore, by determining whether and what types of maize were grown, it may be possible to gain insights into crop production strategies, crop variability, cultivar introductions, and perhaps some of the uses for which different cultivars were intended.

Individual counts of kernels, cobs, cupules, and fragmentary specimens of maize are listed in Table 8-4. Entire kernels and kernel fragments were recovered from seven features (228 specimens total); a subset of 27 whole or nearly complete specimens from three features was analyzed for morphometric data (Table 8-5). A subsample of 56 cob midsections from four features, but primarily Feature 12, were subjected to more detailed analyses (Table 8-6).

Two distinct kernel morphologies occur among the samples. They are different enough to suggest the presence of two separate races of maize. The most common type of kernel is

crescent-shaped, widest at the point midway between the proximal and distal ends, with smooth upper (apical) surfaces. Considering both whole and fragmentary specimens, this kernel type is present in all or nearly every sample with maize kernels, including each of the three features with kernels suitable for measurement (Table 8-5). Average kernel height for crescent-shaped specimens is 5.61 mm (standard deviation 0.86; range 3.04 mm) and the average thickness at midsection (the widest point) is 8.78 mm (standard deviation 1.51; range 5.17 mm). The size and shape of the crescent-shaped kernels associate them with Eastern Complex maize (also known as Eastern Eight Row [Cutler and Blake 1976; and see Fritz 1992, Wagner 1994]). This type of maize has kernels with floury or flinty endosperm and it may well be the flint maize mentioned in Speck's (1909:18, 44) account of the Yuchi Indians.

A wedge-shaped kernel morphotype is exclusive to Feature 24 (three specimens; Table 8-5). Mean kernel height for the wedge-shaped specimens is 7.34 mm (standard deviation 0.85; range 1.51 mm) and width is 7.28 mm (standard deviation 0.57; range 1.07 mm). The wedge-shaped kernels are very similar in form and size to wedge-shaped specimens recovered from a pair of Spanish mission sites in north Florida. Scarry (1986b, 1992) determined that the latter conform very closely to kernels of maize known collectively as "Old Southern Dents," of which there are several different historic types that generally appear in the southeastern United States by around A.D. 1700 (Wagner 1994:337). The mission specimens closely resemble in particular kernels of the cultivar Hickory King, an early Southern Dent that is believed to be a hybrid derived from Eastern Eight Row maize and a Mexican cultivar called Olotillo (Brown and Anderson 1948; Brown and Goodman 1977). Hickory King has somewhat flat-topped, shallowly dented kernels that tend to be about as wide as they are deep (Wagner 1994:337). Hickory King kernels compare well with the Yuchi Town wedge-shaped kernels (Table 8-5), except that the latter exhibit no indication of denting. With but three specimens, an association with any particular known cultivar is tenuous, but given the general kernel characteristics and historic record on Old Southern Dent maize, it seems reasonable to infer an affiliation with this group.

Maize cob morphometric data are shown in Table 8-6. Row number is predominantly eight- and ten-row, with nearly even proportions of each (43% eight-row, 55% ten-row cobs). A single twelve-row cob came from Feature 12 (Table 8-6). The majority of measurable cob specimens came from Feature 12 (84%); mean row number for this assemblage is 10.8. A mean row number of 10.8 likewise characterizes the entire population of measurable cobs (56 total) from Yuchi Town. Median cupule width (external width) for the complete assemblage shown in Table 8-6 is 7.87 mm. In agreement with the predominant kernel type, cob row number, the strength of row pairing (moderate to strong), cupule size and other morphological details are consistent with indigenous Eastern Complex maize. In particular, the combination of cob attributes is most consistent with what Blake (1986, in Wagner 1994:337) has categorized as a modified form of Eastern Eight Row maize associated with the Southeastern United States. Classic Eastern Eight Row--the modern land race of which is known as Northern Flint--consists primarily of eight- and ten-row cobs, with the majority eight-row (typically around 85-90% eight-row and 10-15% ten-row), and with a

minor representation of twelve-row cobs (generally around 5% of a given cob assemblage) (Wagner 1994:337). Cob populations classified as modified Eastern Eight Row (see Wagner 1994:337) have a tendency for greater frequencies of higher row-numbered cobs (ten- and twelve-row), much like the Yuchi Town maize assemblage. Note that Hickory King, the Southern Dent maize mentioned above, has eight- to ten-row cobs. Thus, it is worth consideration that cobs from the second type of Yuchi Town maize may also be present in the Yuchi Town cob assemblage, at least among the remains from Feature 24 from which the wedge-shaped kernels were recovered. That cobs from this second form of maize might indeed be present is tentatively suggested by generally larger cupules in Feature 24, based on average cupule dimensions and alicole length (see Table 8-7).

To compare one step further, the maize assemblage from the Yuchi Town excavations seems to have greater affinity or is more consistent overall with sixteenth- and seventeenth-century populations of maize from Spanish missions and other relatively early historic sites in the lower Southeast, than with later maize from primarily eighteenth-century contexts (a Texas mission, and Creek and Seminole villages) (Table 8-8). With an approximate date range of roughly 1625 to 1835 (essentially 17th and 18th century), the Yuchi Town assemblage falls roughly in between the earlier and later sites listed, overlapping both periods. The differences between the earlier and later maize populations are largely a reflection of the increased introduction of higher row-numbered cultivars from tropical American regions in the later periods. The Yuchi Town maize is largely representative of and consistent with the earlier, primarily Eastern Complex, maize horticulture systems of the region. Eastern Complex or, more specifically, a modified Eastern Eight Row continued to be grown at the site into the 18th Century based on it's presence throughout the deposits. The wedge-shaped kernels that may represent Hickory King or a similar Southern Dent most likely date to the eighteenth century components of the site, and therefore correspond with the latest occupation of the site. Thus, by the time the Yuchi people came to live at Yuchi Town (ca. 1715-1835) two types of maize were under cultivation and maintained there. The Yuchi may actually have been the first to bring Southern Dent maize to the site, incorporating its production with the established Eastern Complex maize. The Old Southern Dents are generally believed to have first been widely introduced around the Southeast by the Spanish (Wagner 1994:337, citing Blake 1986).

The final category of archaeobotanical remains from Yuchi Town is wood and cane, so the focus now shifts from subsistence and food remains to the wood identifications. The distributions of specimens belonging to the six wood taxa identified from site deposits are shown in Table 8-9. These include wild cherry, hickory, red oak group, white oak group, cf. persimmon, and hard or yellow group pine. Additional anatomical categories were adopted during analysis to categorize individual wood specimens that could not be assigned to a particular genus or wood anatomical group. The category "oak, indeterminate" includes fragments positively identified to the genus *Quercus*, but which could not be resolved to a subgeneric group. "Diffuse porous" is the designation used for certain specimens from pit Feature 23 (Table 8-8) that exhibit a particular diffuse (versus ring- or semi-ring porous)

vessel arrangement, but which were insufficient of anatomical detail to fully resolve the identification; these may belong to the maple genus (*Acer* sp.). Finally, "unidentified hardwood" is a catchall for small specimens that could be grouped as hardwood (that is, Angiosperms, e.g. oak, hickory, etc., as opposed to softwoods or Gymnosperms, e.g. pine, cypress, cedars). When ten or more fragments of identifiable wood were present in a given sample the number of identified specimens per taxon is indicated (for example, 30 fragments of red group oak from Feature 24 [Table 8-9]). Otherwise, the wood types are scored simply as present ("X" in Table 8-9).

In general the samples produced insufficient and uneven amounts of wood to examine the relative numbers between and within samples as a possible indication of preferential uses of different wood types (see Scarry and Newsom 1992). Nevertheless, examining the assemblage as a whole, it is clear that locally available southern pines were heavily relied upon. Pine is the most ubiquitous wood, appearing in 82 percent of the samples and over the full range of contexts, including postholes, cob pits, other pits, possible house-structural remains and the basin fill from Structure 1 (Table 8-9). Red oak was second in frequency of occurrence, identified in 18 percent of the samples. Red group oak is the predominant type associated with the roof/wall samples from Structure 1 (6 out of 8 samples; the two remaining samples were composed of pine [Table 8-8]). White group oak, wild cherry, hickory, the persimmon-like wood, and the diffuse-porous (cf. maple) type were identified in one provenience each. The cherry wood is associated with the Structure 3 carbon sample (sample 332); hickory from a cob-filled pit (Feature 71, sample 427); white oak from a possible pit, Feature 40 (sample 350); cf. persimmon from a posthole (Feature 85, sample 450); and the diffuse porous wood in pit Feature 23, mentioned above (Table 8-9). Cane stem fragments, likewise, are restricted in occurrence, having been identified from a posthole designated Feature 25 and the Structure 1 basin (samples 208 and 263, respectively [Table 8-9]).

The diversity of species associated with the individual cultural contexts sampled is generally low, typically with one and at most three wood types documented from any particular provenience. A single wood, usually pine, is identified from the cob pits, though hardwoods (oak and hickory) were also present in three of these features. The postholes and possible postholes most commonly include exclusively pine wood, but a few samples also contained oak (or unidentified hardwood, very probably oak), and one also the cf. persimmon wood. A wall-trench sample (Feature 22, sample 201) included oak, perhaps red group, the same as is so consistently associated with the Structure 1 roof/wall remnants. General pit features tend to include pine and occasional fragments from hardwoods. The hearth Feature 21 (sample 190; Table 8-8) produced oak.

Discussion

The Yuchi Town archaeobotanical samples produced evidence of the types of plants used by inhabitants of the site for food, house construction, fuel, and perhaps also for different purposes. The food remains, moreover, demonstrate that Yuchi Town diets throughout the

200-year interval examined were based on a combination of wild and garden elements.

The ethnohistoric descriptions Speck (1909:18, 44-45) obtained from Yuchi Indians based on their recollections of traditional plant-use provide some background information that pertains to the period Yuchi people inhabited the Chattahoochee River site. The informants indicated that maize was traditionally their primary food crop, and that pumpkins, sweet potatoes, beans, melons, and squashes were secondary in importance (Speck 1909:18, 44-45). Moreover, regularly supplementing Yuchi diets and particularly "at certain times of the year" (Speck 1909:44) were game, fish, and wild fruits. With the exception of hickory nuts, which were processed by various means and prepared for storage (Speck 1909:44), edible wild plants probably formed an intermittent, relatively minor constituent of Yuchi Town subsistence patterns.

The data generated from this research corroborates certain aspects of the land use and food production systems described by Speck (1909). The presence of cultivated species was verified by the identifications of common bean, two forms of maize, and two genera from the gourd/squash family. Identifications of wild plants that almost certainly served as food resources include hickory nuts, acorn, persimmon, huckleberry, maypop, and elderberry. Panicoid grass, purslane, and chenopod may also have been collected and integrated into the overall subsistence pattern. The possibility also exists that chenopod, at least, was perhaps maintained in gardens along with the cultivated species mentioned above.

The archaeobotanical data are consistent with the ethnohistoric (Speck 1909) characterization of maize as predominant among Yuchi Town crops, based on its conspicuous presence throughout the archaeological contexts sampled. The general ubiquity at the site of Eastern Complex maize suggests also that it in particular was a staple prior to the actual occupation by Yuchi people. This is not surprising, given that late prehistoric, specifically Eastern Complex, maize has been documented from several locations in (primarily west-central) Alabama and perhaps also one Georgia site (Caddell 1983; Lentz 1980; Scarry 1986a, 1987, 1993; Shapiro 1981; and see Scarry 1994). Eastern Complex maize is also known from late prehistoric and mission-period sites from the Apalachee region of northern Florida/southern Georgia (see Scarry 1986b, 1991, 1992). The Yuchi Town maize remains confirm in Alabama the presence/use of Eastern Complex maize into the historic period. Moreover, the archaeobotanical data from the site demonstrate that the Yuchi during their presence at the site grew similar, if not identical, Eastern Complex maize. In addition, the Yuchi very likely were responsible for the introduction of at least one new maize cultivar, specifically the Old Southern Dent hybrid, which is very similar to varieties that by then were grown also at the Spanish mission sites (Scarry 1992).

Beyond maize, it is not possible to draw definitive conclusions about the relative importance of other garden crops and/or in relation to wild plant foods from the excavated assemblage of plant remains. This is because of the specialized, restricted nature of virtually all of the contexts analyzed. That is, the various edible species that were identified from

posthole (which comprise the majority of the samples) and wall trench samples are highly likely to have been differentially displaced from other contexts--for example, food preparation areas and/or hearths. As such, the relative proportions of species within these contexts are almost certainly skewed and may inaccurately reflect intensity of use. This in mind, pit features--especially any that may have functioned as storage pits--may provide the most reliable indication of the degree of reliance on different plant food items. (This is not true of cob pits because they were filled intentionally with materials for the singular purpose of burning and smudging). The total number (six) of pit-like features analyzed is not large, but it nevertheless is noteworthy that all of the evidence for the presence of cultivated plants aside from maize comes from pit or possible pit (including "carbon concentrations") proveniences (Features 23, 30, 40, 46, 58, and 62 [Table 4]). Of these, Feature 40 is the most species rich provenience, but the total number of remains is still too few to infer much about the relative importance of different plant food items. The overall ubiquity of hickory nut remains among the various features, however, suggests that the nut meats were a regular and sustained element of Yuchi Town diets.

The Yuchi Town plant identifications illuminate other aspects of subsistence and plant use that are not related directly to food production. The wood data indicate that pine was used extensively as a building material, having been employed in house construction and generally for posts and supports. Pine wood appears also to have been used as fuel for cooking and heating, and as smudging material, based on it's presence among concentrations of carbonized wood and in cob pit features. Some of the pine recovered from postholes may represent fragments of fuelwood displaced from hearths or other contexts in which materials were intentionally burned, rather than actual posts. Other possible fuelwoods, judging by their almost exclusive association with pit features (Table 8-9), are hickory, red- and white-group oaks, persimmon, and wild cherry. Of these, red oak seems to have been used most frequently. To the extent that Structure 1 is representative, red-group oak seems also to have been preferentially used for wall and/or roof elements in house construction, while pine appears to have served as the primary posts or supportive members.

Returning again to the plant-food remains, it is possible to infer from the overall data some of the broader aspects of subsistence and settlement pattern at the site. Maize and the other crop species in the samples were probably grown intermixed in garden plots such as those that were described by the Yuchi as having been maintained around the edges of their towns (Speck 1909:18). The various wild taxa identified may have been readily gathered from surrounding woodlands, including disturbed areas and ecotones such as would have existed between the village/field area and adjacent wooded sites. That the broader aspects of regional environment--the species and general floristic patterns of the Gulf Coastal Plain province (Thorne 1993:138-140)--conformed at the time of occupation with the extant vegetation is indicated by the combined archaeobotanical identifications (predominance of pine; oak/hickory; typical successional or old-field species [e.g., persimmon, maypop]). The home or dooryard gardens, mentioned in particular as the place where tobacco was grown (Speck 1909:18) (and probably also a suite of medicinal and culinary plants), is the only specific

plant-production location or context for which evidence is lacking from our samples.

To delve a bit further into possible plant-use dynamics, cob pit Feature 63 produced an assortment of seeds--elderberry, chenopod, huckleberry, panicoid grass, purslane, cf. chickweed, and spurge (Table 8-4)--that together suggest deposition in the late summer/fall. This is based on the ripening periods for the various fruit types (Radford et al. 1968), specifically the period of overlap, which indicates that the feature very likely was used in the late summer/fall. In fact, all of the cob pits and other pit features contain seeds of one or more fruit types that reach maturation in the latter part of the year. This may simply reflect the relative abundance of fresh fruits and nuts that become available during late summer through fall. Alternatively, this may be a true reflection of pit function and behavioral practices. For example, there may have been a preference or established practice of smoking hides (the smudge pits) during the latter part of the year, perhaps because of the ready availability of suitable smudging materials (cobs and nut shell) at that time of the year or because of more favorable weather conditions. One possible complication to this general conclusion regarding season of use comes from Speck's (1909) information on Yuchi uses of wild fruit. The Yuchi regularly dried grapes (Speck 1909:44-45) and possibly other fruits and stored the product in baskets. Berries were apparently frequently added to corn meal cakes (mixed directly into the dough) to improve flavor. Hickory nuts were also processed for storage, along with garden produce, all of which was stored in outhouses and cribs (Speck 1909:18, 44-45). Thus, hickory nuts and certain of the fruits identified are not necessarily indicative of when and/or how often the feature was used, or the time of year the specimens were deposited. Maypop is one example, however (identified from cob pit Feature 71 and a possible post Feature 85), of a fruit that is poorly suited for drying and storage, and which ripens from approximately July through October (Radford 1968:733-734).

Analysis of Yuchi Town plant remains has helped to shed light on historic period subsistence and plant-use practices at the site. Identified were plants indicative of gardening systems and others gathered wild. With the exception of the hybrid maize (wedge-shaped kernels), all of the cultivated species documented by means of the archaeological research are members of indigenous New World crop systems, and which have long histories of association with prehistoric inhabitants of the region. Absent from among the samples analyzed is evidence for Old World garden species (e.g., peach, wheat [European origin], watermelon [African origin]) that are known to have been widely introduced relatively early in the eastern United States (see, for example, Ruhl 1993). Peach pits, however, have been identified from historic-period deposits at a site in central Georgia (Manning 1982). Speck (1909:18) indicated that the Yuchi grew two non-native cultigens--sweet potato (tropical American origin) and melons (Old World); archaeobotanical evidence confirming the use of these plants may appear with additional analysis and testing at the site. From the predominance of indigenous cultivars and wild taxa, both among the archaeological samples analyzed and based on the ethnohistoric information, it appears generally that Native American inhabitants of the Yuchi Town site maintained and adhered to traditional and long-established practices of plant use.

Table 8-1. Provenience of Archaeobotanical Samples.

BLOCK	UNIT	LEVEL	FEAT	ZONE	SECTION	BAG	DESCRIPTION	SAMPLE
A	1	6	4			41	possible posthole	sediment
A	1	6	5			42	possible posthole	sediment
A	1	6	6			43	possible posthole	sediment
A	1	6	7			44	possible posthole	sediment
B	3	6	13		W 1/2	117	posthole	sediment
B	3		14		W 1/2	89	posthole	sediment
B	3	6	14		W 1/2	118	"	sediment
B	4		12		W 1/2	129	maize cob-filled pit	sediment
B	4		12	A	E 1/2	131	"	sediment
B	4		12	C	E 1/2	132	"	sediment
B	4	4	12			113	in situ cane/maize	in situ
B	4		19		40-50 cmbs	127	posthole	sediment
B	4		19		50-57 cmbs	145	"	sediment
B	4		20		50-60 cmbs	146	pit (possible cob pit)	sediment
B	6		22		E 1/2	201	wall trench sample	sediment
B	6		23		NE 1/4	198	pit	sediment
B	6		24		W 1/2	193	maize cob-filled pit	sediment
B	6		26			211	posthole	sediment
B	9		30		N 1/2	241	pit	sediment
B	9		33			257	carbon concen./cob pit	sediment
B	9		34		N 1/2	248	posthole	sediment
B	17	3				332	?Structure 2, carbon	in situ
B	17		58		W 1/2	400	pit	sediment
B	17		63			402	maize cob-filled pit	sediment
C	8	4				168	Structure 1 roof/wall	in situ
C	8	4				169	Structure 1 roof/wall	in situ
C	8	4				177	Structure 1 roof/wall	in situ
C	8	4				178	Structure 1 roof/wall	in situ
C	8	4				180	Structure 1 roof/wall	in situ
C	8	4				181	Structure 1 roof/wall	in situ
C	8	5	21		S 1/2	190	hearth	sediment
C	8		25			208	posthole	sediment
C	11	4	35			274	?Structure 1 post	in situ
C	11		45		E 1/2	294	posthole	sediment
C	11		47		W 1/2	307	posthole	sediment
C	11		48		W 1/2	319	posthole	sediment
C	11		48			320	?Structure 1 post	in situ
C	12	2				244	?Str. 1, post, ?recent	in situ
C	12	2				249	Structure 1 roof/wall	in situ
C	12	3				263	Stucture 1 basin fill	sediment

C	18	2				357	Structure 1, roof/wall	in situ
C	18	5	62			392	pit	sediment
C	18		67			410	posthole	sediment
C	24		85			450	posthole	sediment
D	13		40		N 1/2	350	possible pit	sediment
D	14	2	46	A		300	carbon concentration	sediment
D	19	4	57			372	pit	sediment
D	20		71			427	maize cob-filled pit	sediment

Table 8-2. Summary Data for Flotation Samples.

FEATURE	BAG	FEAT TYPE	SAMP VOL	LT FRAC WT	HVY FRAC WT	WOOD WT	WOOD DENSITY	MAIZE WT	MAIZE DENSITY	NUT WT	NUT DENSITY
12-WI/2	129	cob-filled pit	8	406	307	27.9	3.5	217.8	27.2	0	0
12-E1/2-Zn.A	131	"	3	214.7	16.6	<0.1	<0.1	132.5	44.2	0	0
12-E1/2-Zn.C	132	"	5	353.4	86.1	14.8	3	217.7	43.5	0	0
24	193	cob-filled pit	8	105.9	264.6	14.1	1.8	105	13.1	<0.1	<0.1
33	257	cob-filled pit	2	8.7	43	1.4	0.7	25.8	12.9	0	0
63	402	cob-filled pit	6	57.3	174.4	4.6	0.8	59.7	10	0	0
71	427	cob-filled pit	8	266.6	274.8	2.9	0.4	96.9	12.1	0.6	0.1
20	146	pit	5	2.9	14.3	0.3	0.1	<0.1	<0.1	0.2	<0.1
23	198	pit	8	53.5	113	2.5	0.3	<0.1	<0.1	1.1	0.1
30	241	pit	9	20	85.1	2.3	0.2	0.2	<0.1	0.7	0.1
58	400	pit	6	34.3	39.9	1.2	0.2	0.2	<0.1	0.2	<0.1
62	392	pit	4	5.5	8.4	0.9	0.2	0	0	0.2	0.1
40	350	possible pit	8	50.8	165.2	4.6	0.6	<0.1	<0.1	1.1	0.1
57	372	pit	9	83.8	144.9	2.6	0.3	0.5	0.1	1.1	0.1
46-Zone A	300	possible pit	1	2.6	24.2	1.2	1.2	16.4	16.4	0	0
21**	190	hearth	12	30.3	-	<0.1	<0.1	0	0	0	0
-	263	Str. 1, basin	10	27.2	473.2	0.3	<0.1	1.3	0.1	<0.1	<0.1
4	41	postmold ?	0.5	0.3	10.2	0.2	0.4	0.1	0.2	0.1	0.2
5	42	postmold ?	0.5	0.5	4.7	0.1	0.2	0.2	0.4	<0.1	<0.2
6	43	postmold ?	0.5	0.3	6.5	<0.1	<0.2	0.1	0.2	<0.1	<0.2
7	44	postmold ?	1	0.2	10	0.1	0.1	0	0	0	0
13	117	postmold	4	1.5	22	0.1	<0.1	<0.1	<0.1	0.1	<0.1
14	89	postmold	3	7.6	20.6	0.4	0.1	0.1	<0.1	0.1	<0.1
14	118	"	2	1.6	24.2	0.2	0.1	<0.1	0.1	0	0
19/40-50 cm	127	postmold	3	49	25.7	1	0.3	<0.1	<0.1	<0.1	<0.1
19/50-57 cm	145	"	4	6.2	11.6	0.2	0.1	<0.1	<0.1	0.1	<0.1

22	201	wall trench	8	10.5	54.7	1.7	0.2	<0.1	<0.1	0.4	0.1
26	211	postmold	6	5.5	27.2	0.8	0.1	0.5	0.1	0.5	0.1
34	248	postmold	3	7.5	29.5	1	0.3	0.1	<0.1	0.3	0.1
25	208	posthole	2	12.6	129.8	0.6	0.3	0.2	0.1	<0.1	<0.1
45	294	posthole	1	0.8	18.6	0.6	0.6	0	0	<0.1	<0.1
47	307	posthole	1	1.2	29.6	0.3	0.3	<0.1	<0.1	0.1	0.1
48	319	posthole	4	41.6	7.4	0.2	0.1	0	0	<0.1	<0.1
67	410	posthole	1	8.3	3.9	0.3	0.3	<0.1	<0.1	0	0
85	450	posthole	6	11	30.7	3.4	0.6	0.1	<0.1	0.4	0.1

Notes: Vol = volume in liters; Wt = weight in grams; Density= grams per liter of sample; Heavy fraction from Feature 21 (hearth) consisted exclusively of large fragments of burnt clay which were not examined

Table 8-3. Archaeobotanical Identifications.

TAXON	COMMON NAME	HABITAT/LIFE FORM
GARDEN TAXA:		
Cucurbita sp.	gourd/squash	garden, vine (gourd)
Lagenaria siceraria	bottle gourd	garden, vine (gourd)
Phaseolus vulgaris	common bean	garden, vine (pulse)
Zea mays	maize	garden, grass (grain)
WILD PLANT FOODS:		
Carya sp.	hickory nut	woodlands, trees
Chenopodium sp.	chenopod_	weed flora, forb
Diospyros virginiana	persimmon	forest edge, tree
Gaylucassia sp.	huckleberry	woodland, shrub
Passiflora incarnata	maypop	forest edge, vine
Poaceae, panicoid	panicoid grass	weed flora/grassland
Portulaca sp.*	purslane	weed flora, forb
Quercus sp.	acorn	woodlands, trees
Sambucus canadensis	elderberry	wetlands, shrub/tree
WOOD:		
Carya sp., true hickory group	true hickories, e.g., pignut	woodlands, trees
cf. *Diospyros virginiana*	persimmon	forest edge, tree
Pinus sp., section *diploxylon*, *taeda* anatomical group	southern hard pine group (e.g. long- leaf, slash pines)	pine woodland, trees
Pinus sp.	cf. hard pine group	pine woodland
Quercus sp., red oak anatom. group	red & black oaks	woodlands, trees
Quercus sp., white oak anatom. group	white oaks	woodlands, trees
unidentified diffuse-porous hardwood	possibly maple	
RUDERAL TAXA:		
cf. *Cerastium* sp.	mouse-ear chickweed	weed flora, forb
Euphorbia sp.	spurge	weed flora, forb

Table 8-3, continued

TAXON	COMMON NAME	HABITAT/LIFE FORM
Fabaceae	bean family (wild)	weed flora, vine
Poaceae	grass family	weeds, grassland
OTHER:		
Arundinaria sp.	cane	wetland, grass
monocot stem	cane or maize stalk	various
Unid. seed type 3	?grass or sedge	
Unid. seed type 4	spherical form	
Unid. thick seed coat, cf. Arecaceae	?palm family	
MODERN SEEDS:		
Acalypha sp.	copperleaf	weed flora, forb
Amaranthus sp.	pigweed	weed flora, forb
Liquidambar styraciflua	sweetgum	mesic woodland, tree
Mollugo sp.	carpetweed	weed flora, forb
cf. *Malvastrum* sp.		weed flora, forb
Myrica sp.	wax myrtle	wetland, shrub/tree
Polygonum erectum	knotweed	wetland, forb
Sida sp.	broomsedge	weed flora, forb
cf. *Solanum* sp.	nightshade	weed flora, forb
Trifolium sp.	clover	weed flora, forb
Vitis sp.	wild grape	woodlands, liana
Cyperaceae/Poaceae	grass or sedge	various
Unid. types 1 & 2		

Note: * Some specimens appear uncarbonized, modern

Table 8-4. Distribution of Non-Wood Plant Remains in Flotation Samples (by Specimen Count).

TAXON	FEATURE											
	4	5	6	7	12-W	12-E	13	14	19	20	21	22
Garden species:												
common bean												
gourd/squash rind												
gourd/squash stem												
bottlegourd												
maize: kernels					10	85						
cob sections					15	41						
cob fragments					790	1438		1				
whole cupules	1	2			4531	5437			2			
small fragments		6	4		8090	9301	2	23	2	4		18
Edible seeds/fruit:												
acorn												
elderberry												
goosefoot												
hickory	2	2	2				3		10	11		28
huckleberry												
maypop												
panicoid grass												
persimmon												
purslane		2			3						1	
unid. small nut shell	10						1	6	14			3
Ruderals & misc.:												
cf. chickweed												
grass family												
spurge												
wild bean												
unid. thick seed coat												
unid. fruit stem												
modern seeds	1	9	0	1	33	14	1	2	1	4	4	16

Table 8-4, cont. Distribution of Non-Wood Plant Remains in Flotation Samples (by Specimen Count).

TAXON	FEATURE											
	23	24	25	26	30	33	34	40	45	46	47	48
Garden species:												
common bean	5							1				
gourd/squash rind								1		[1]		
gourd/squash stem					[1]			2				
bottlegourd										1		
maize: kernels		64		1		1		11				
cob sections		11				1						
cob fragments		421				88		5		40		
whole cupules		1632	1		1	707				57	3	
small fragments	9	2853	4	14	28	1511	10	37		862		
Edible seeds/fruit:												
acorn					2		1	6				
elderberry												
goosefoot		1						2				
hickory	6	1	1	12			9	95	6		1	1
huckleberry												
maypop												
panicoid grass												
persimmon												
purslane								1	1	1	1	
unid. small nut shell	60		1	12	42						9	
Ruderals and Misc.												
cf. chickweed												
grass family			1		1							
wild bean							4	2				
unid. seed type 3											1	
unid. thick seed coat								1				
unid. fruit stem		1										
modern seeds	33	1	0	15	3	0	3	38	0	0	8	

Table 8-4, cont. Distribution of Non-Wood Plant Remains in Flotation Samples (by Speciment Count).

TAXON	FEATURE								
	57	58	62	63	67	71	85	TU 12 L 3	Ubiquity
gourd/squash rind									10
gourd/squash stem									
bottlegourd									3
maize: kernels				55		1			84*
cob sections				3					
cob fragments				154		306			
whole cupules		1		1518	1	2298			
small fragments	59	26		4287	3	3315	12	75	
Edible seeds/fruit:									
acorn		2							13
elderberry				1					3
goosefoot	1			1					13
hickory		10	5			22	2		64
huckleberry				1					3
maypop						1	1		6
panicoid grass				1					3
persimmon							1		3
purslane		1		1					29
unid. small nut shell	76						19	2	
Ruderals & misc.:									
cf. chickweed				1					3
grass family									6
spurge				1					3
wild bean									6
unid. seed type 3									3
unid. seed type 4			1						3
unid. thick seed coat									3
unid. fruit stem									3
modern seeds	85	6	1	4	0	13	2	3	

Notes: * All maize parts.

Table 8-5. Morphometric Data for Yuchi Town Maize Kernels.

I. Feature 12, East 1/2, Zone C, Bag 132								
KERNEL	MORPHOLOGY			GRAIN				COMMENTS
#		height	W.M.	W.P.	W.D.	thick	D1	
1	cresent	5.48	10.83	-	-	6.34	1.86	nearly complete, lacks embryo
2	cresent	5.29	10.06	-	-	4.20	2.16	nearly complete, lacks embryo
3	cresent	6.13	8.30	-	-	5.20	3.40	nearly complete, lacks embryo
4	cresent	5.62	10.44	-	-	5.46	3.30	nearly complete, with embryo
5	cresent	6.68	10.83	-	-	6.64	4.98	nearly complete, with embryo
6	cresent	5.32	8.89	-	-	5.27	2.82	nearly complete, with embryo
7	cresent	6.20	8.25	-	-	-	2.74	ca. 50% complete, lacks embryo
8	cresent	4.31	7.92	-	-	5.14	3.44	ca. 50% complete, lacks embryo
9	cresent	5.08	7.38	-	-	4.58	2.94	nearly complete, lacks embryo
10	cresent	6.07	7.03	-	-	9.98	2.89	nearly complete, lacks embryo
II. Feature 24, Bag 193								
KERNEL	MORPHOLOGY			GRAIN				COMMENTS
#		height	W.M.	W.P.	W.D.	thick	D1	
1	wedge	6.35	6.88	-	7.98	5.01	3.80	nearly complete, lacks embryo
2	wedge	7.86	7.03	-	10.09	5.82	-	nearly complete, lacks embryo
3	wedge	7.81	7.95	8.58	5.14	6.24	4.88	nearly complete, lacks embryo
4	crescent	7.29	8.41	-	-	4.66	3.71	nearly complete, lacks embryo
5	crescent	6.80	9.74	-	-	4.86	3.87	nearly complete, lacks embryo
6	crescent	4.56	5.66	-	-	3.99	2.14	nearly complete, lacks embryo
7	crescent	4.48	6.46	-	-	4.54	2.99	nearly complete, lacks embryo

Table 8-5, cont. Morphometric Data for Maize Kernals.

III. Feature 63, Bag 402.								
KERNEL	MORPHOLOGY			GRAIN				COMMENTS
#		height	W.M.	W.P.	W.D.	thick	D1	
1	crescent	6.06	8.82	-	-	5.04	3.03	nearly complete, lacks embryo
2	crescent	5.63	10.66	-	-	4.23	3.53	nearly complete, lacks embryo
3	crescent	5.42	10.77	-	-	4.42	2.25	nearly complete, lacks embryo
4	crescent	6.43	8.98	-	-	4.58	2.54	nearly complete, lacks embryo
5	crescent	6.32	10.78	-	-	6.22	3.16	nearly complete, lacks embryo
6	crescent	4.83	8.57	-	-	5.90	2.03	nearly complete, lacks embryo
7	crescent	4.25	7.97	-	-	4.98	2.49	nearly complete, lacks embryo
8	crescent	6.71	8.92	-	-	6.62	2.60	nearly complete, lacks embryo
9	crescent	5.24	8.80	-	-	5.12	2.76	nearly complete, lacks embryo
10	crescent	4.49	6.42	-	-	3.60	2.34	nearly complete, lacks embryo

Notes: MORPHOLOGY = peg, wedge, crescent; TYPE = pop, flour, flint, etc.; W.M. = width-midsection; W.P. = width proximal; W.D. = width-distal; thickness measured at widest point.; D1 = length from proximal end (base) of kernel to its widest point.

Table 8-6. Morphometric Data for Yuchi Town Maize Cobs.

COB					ALICOLE				CUPULE				L Glume	Spikelet
#	MORPH	Row #	Length	Diam	#	Length	Thick	WE	WI	WW	LE	LI	Width	Thick
I. Feature 12, West 1/2, Bag 129														
1	M - Ti	8	31.65	-	9	3.56	2.64	7.66	-	-	1.70	-	4.41	1.49
2	M	10	26.96	-	10	2.53	2.86	6.10	-	-	1.32	-	4.65	0.72
3	M	8	25.22	-	8	3.50	4.52	8.04	-	-	2.26	-	5.24	0.92
4	M	10	14.05	-	3	5.06	3.61	6.54	-	-	3.65	-	4.30	-
5	Ti	10	15.78	-	4	-	-	-	-	-	-	-	-	-
6	M	10	35.15	11.20	11	3.20	3.35	7.24	-	-	2.17	-	3.64	1.40
7	M	10	27.91	16.17	9	2.84	4.16	7.91	-	-	2.00	-	5.02	0.92
8	M	10	19.95	16.65	5	2.64	3.99	8.22	-	-	2.03	-	5.08	0.99
9	M	10	17.66	17.64	6	2.32	2.94	6.94	-	-	1.78	-	4.48	-
10	M	10	14.71	-	-	3.29	3.06	7.23	-	-	2.04	-	3.14	-
11	Ti	8	13.51	-	-	-	-	-	-	-	-	-	-	-
12	Ti	8	19.82	12.15	7	-	-	-	-	-	-	-	-	-
13	M	10	9.18	14.99	2+-	3.68	2.99	6.92	-	-	1.96	-	3.70	-
14	?Ti	10	20.82	12.79	-	2.06	2.97	5.32	-	-	2.12	-	2.68	-
II. Feature 12, East 1/2, Zone A, Bag 131														
1	M	10	30.87	-	9	4.39	-	10.15	-	-	2.51	-	5.60	1.50
2*	M - Ti	10	20.72	-	6	3.20	4.56	8.31	-	-	2.72	-	5.51	-
3	M	8	28.88	-	9	3.78	-	7.84	-	-	3.29	-	4.18	-
4*	M - Ti	8	21.70	-	6	3.10	-	7.10	-	-	3.12	-	4.23	-
5	M	10	46.32	20.00	12	3.19	-	10.74	-	-	3.63	-	4.38	-
6	M - Ti	10	50.03	17.45	12	3.47	5.50	8.62	-	-	2.42	-	4.73	1.77
7	M - Ti	8	56.23	20.68	15	3.82	-	11.32	-	-	3.68	-	5.82	1.98
8	M - ?Ti	8	26.10	25.60	7	-	-	-	-	-	-	-	-	-
9	M - ?Ti	8	20.08	12.35	6	-	-	-	-	-	-	-	-	-

Table 8-6, cont. Morphometric Data for Yuchi Town Maize Cobs.

10	M - ?Ti	8	14.38	10.9	4	-	-	-	-	-	-	-	-	-
11	M	8	28.72	11.40	9	3.21	5.19	10.6	-	-	3.3	-	-	-
12	M	10	21.25	16.7	6	3.53	5.12	8.75	-	-	3.00	-	4.90	1.72
13	M - ?Ti	8	30.14	14.40	9	3.03	3.38	7.58	-	-	3.2	-	4.76	1.77
14	M - ?Ti	8	21.77	11	7	-	-	-	-	-	-	-	-	-

Note: Cobs 1 and 2 may represent one original cob; likewise, cobs 3 and 4 may represent a single cob.

III. Feature 12, East 1/2, Zone C, Bag 132

COB					ALICOLE				CUPULE				LGlum	Spikelet
#	MORP	Row	Length	Diam	#	Length	Thick	WE	WI	WW	LE	LI	Width	Thick
1	M	10	43.38	16.90	13	3.10	4.04	8.80	-	-	3.1	-	4.31	-
2	M - Ti	10	28.49	18.8	8	3.00	3.35	9.42	-	-	3	-	5.10	1.46
3	M	10	35.66	14.3	10	3.27	5.27	7.87	-	-	3.3	-	4.13	1.71
4	Ti	-	18.23	-	6	-	-	-	-	-	-	-	-	-
5^	B, M,	10	30.42	16.8	8	3.52	-	9.26	-	-	3.6	-	5.31	3.98
6	M - Ti	10	50.45	15.5	16	2.58	4.71	7.67	-	-	2.20	-	4.54	2.33
7	Ti	8	16.53	9.29	-	-	-	-	-	-	-	-	-	-
8	Ti	8	20.82	8.53	-	-		-	-	-	-	-	-	-
9	Ti	-	14.68	10.4	-	-	-	-	-	-	-	-	-	-
10	M	10	30.39	15.2	9	3.43	-	8.52	-	-	2.50	-	4.72	-
11	M - Ti	12	34.20	13.1	10	3.17	-	5.63	-	-	3	-	3.77	-
12	M - Ti	8	36.95	-	10	3.61	-	8.81	-	-	2.8	-	4.26	-
13	Ti	10	32.10	-	7	3.62	-	-	-	-	-	-	-	-
14	M	10	15.21	13.4	4	-	-	-	-	-	-	-	-	-
15	?Ti	-	20.22	13.7	6	-	-	-	-	-	-	-	-	-
16	?Ti	8	21.75	-	5	-	-	-	-	-	-	-	-	-
17	?Ti	-	10.75	-	4	-	-	-	-	-	-	-	-	-
18	Ti	-	18.00	-	4	-	-	-	-	-	-	-	-	-
19	M	10	52.77	17.2	16	3.52	-	8.64	-	-	3.2	-	4.63	1.96
20	M	8	20.11	15.3	4	3.39	5.15	10.40	-	-	2.6	-	-	-

Table 8-6, cont. Morphometric Data for Yuchi Town Maize Cobs.

21	M -	8	23.87	14.62	7	-	-	-	-	-	-	-	-	-
22	M -	10	24.73	13.15	7	3.38	3.30	7.73	-	-	2.37	-	-	-
23	M -	8	31.53	12.85	8	3.49	4.42	-	-	-	-	-	-	-
24	M -	10	26.86	12.23	7	2.96	-	6.21	-	-	2.85	-	-	-
25	Ti	-	12.47	-	2-3	-	-	-	-	-	-	-	-	-

*Cob 5 is 44.00 mm long with the shank included in the measurement.

IV. Feature 24, Bag 193

COB					ALICOLE				CUPULE				L.Glume	Spikelet
#	MO	Row	Length	Diam	#	Length	Thick	WE	WI	WW	LE	LI	Width	Thick
1	M -	10	20.58	14.95	5	3.12	-	8.83	-	-	2.91	-	4.50	-
2	M -	8	25.07	12.28	7	3.82	-	7.68	-	-	2.68	-	4.66	-
3	M	10	18.14	13.07	6	2.97	-	-	-	-	-	-	-	-
4	?Ti	-	21.11	-	4	-	-	-	-	-	-	-	-	-
5	M	10	30.98	16.42	7	3.92	-	10.76	-	-	2.70	-	-	-
6	M	8	23.80	-	7	3.55	-	8.20	-	-	2.75	-	4.02	-
7	M -	-	11.51	-	4	-	-	-	-	-	-	-	-	-
8	M -	-	8.94	-	2+-	-	-	-	-	-	-	-	-	-
9	M -	-	30.25	15.32	6-7+-	-	-	-	-	-	-	-	-	-
10	?M -	-	11.00	-	2+-	-	-	-	-	-	-	-	-	-

V. Feature 33, Bag 257

COB					ALICOLE				CUPULE				Glume	Spikelet
#	MO	Row	Length	Diam	#	Length	Thick	WE	WI	WW	LE	LI	Width	Thick
1	8		23.65	14.65	7	3.35	2.92	7.28	-	-	1.66	-	4.64	1.02

VI. Feature 63, Bag 402

COB					ALICOLE				CUPULE					
#	MO	ROW	Length	Diam	#	Length	Thick	WE	WI	WW	LE	LI	Glume	Spikelet
1	M	8	19.80	13.34	4	2.68	2.46	6.00	-	-	1.72	-	4.32	-
2	M	10	11.88	14.22	3	3.24	2.74	6.90	-	-	1.99	-	4.18	-
3	M-Ti	10	30.29	13.82	8	3.57	2.46	6.50	-	-	2.16	-	4.84	-

Notes: Morphology: C = Cynindrical; T = Tapered; B = Butt; M = Midsection; Ti = Tip; W/S = with shank;
WE = Width exterior; WI = Width interior; WW = wing width; LE = Length exterior; LI = Lenth interior;
All Measurements in mm.

Table 8-7. Summary of Maize Cob Data

	Features 12, 33, 63	Feature 24
Alicole Length:		
average	3.28	3.47
standard deviation	0.52	0.41
n =	39	5
Cupule Width (exterior):		
average	7.96	8.86
standard deviation	1.46	1.34
n =	37	4
Cupule Length (exterior):		
average	2.59	2.76
standard deviation	0.64	0.10
n =	37	4

Note: All measurements in mm.

Table 8-8. Summary of Maize from Historic Sites in the Lower Southeastern US.

SITE	CULTURE & AGE	NO. COBS	MEAN NO. ROWS	MED.CUP. WIDTH (mm)	ROW NUMBER % OF TOTAL COBS 8	10	12	14	16
8Su65 Baptizing Spr. (Fla.)	Timucua mission, 1585-1616	194	8.3	7.6	88	10	2	-	-
9Lb8 (Georgia)	(various) 1590-1670	20	8.8	7.5	60	40	-	-	-
SA34-1; SA36-4N (Florida)	Timucua/ Spanish town 16th Cent.	9	9.0	7.0	50	50	-	-	-
8Co1, Fig Springs (Florida)	Timucua mission, 1608-1656	33	8.8	9.1	67	24	9	-	-
8Vo202 Hont. Isl. (Florida)	Timucua Vil./mission, 1570-1730	24	9.1	7.3	50	46	4	-	-
8Le4 San Luis (Florida)	Apalachee mission, 1656-1704	1020	8.8	-	56	39	3	<1	-
1Ru63 Yuchi Town (Alabama)	Historic/ Yuchi, 1625-1835	56	10.8	7.8	43	55	2	-	-
8A67 Zetrouer Site (Fla.)	Spanish/Ind. ranch/miss. 1685-1706	112	10.3	8.0	17	54	26	2	1
41Bx5, San Juan Capis. (Texas)	Coahuiltec mission, 1731-1762	98	14.5	7.0	-	1	19	45	35
Muyaka Village, AL	Upper Creek 1777-1813	28	12.4	8.2	4	21	39	25	11
8Da411 (Florida)	Seminole 1800-1870	12	12.3	8.0	-	25	42	25	8

Notes: Sources: 8Su65, 9Lb8, 8A67, Myuaka, and 41Bx5 from Cutler (1977); Sa34-1 and 36-4N St. Augustine from Reitz and Scarry (1985); 8Le4 from Scarry (1992); 8Vo202 from Newsom (1986); 8Da411 from Newsom (1987); 8Col from Newsom and Quitmyer (1992).

Table 8-9. Wood Identifications from Yuchi Town Samples.

Feature	Bag	Feature Type	Wood Types										
			Wild Cherry	Hick	Oak, Red	Oak, White	Oak, Indet	Persim	Pine, Hard	Diffuse Porous	Unident Hardwood	Cane Stem	# Woods Present
4	41	posthole?											
5	42	posthole?											
6	43	posthole?											
7	44	posthole?					(X)		X		X		2
13	117	posthole							X				1
14	89	posthole							X		X		2
14	118	posthole							X				1
12 W 1/2	129	cob pit			13								1
12 E 1/2 zA	131	cob pit											
12 E 1/2 zC	132	cob pit			20				1				2
19 40-50	127	posthole							X				1
19 50-57	145	posthole					X		X				2
20	146	cob pit							X		X		2
22	201	wall					X				X		2
23	198	pit							X	X	X		2
24	193	cob pit			30								1
26	211	posthole							X				1
30	241	pit							X		X		2
33	257	cob pit							30		X		2

Table 8-9. Wood Identifications from Yuchi Town Samples.

Feature	Bag	Feature Type	Wood Types										
			Wild Cherry	Hick	Oak, Red	Oak, White	Oak, Indet	Persim	Pine, Hard	Diffuse Porous	Unident Hardwood	Cane Stem	# Woods Present
34	248	posthole							X		X		2
-	332	str 3	X						X				2
58	400	pit							X				1
63	402	cob pit			X		X		X				2
-	168	str 1			X								1
-	169	str 1							X				1
-	177	str 1			X								1
-	178	str 1			X								1
-	180	str 1			X								1
-	181	str 1			X								1
21**	190	hearth					X						1
25	208	postholes							X		X	X	2
35	274	str 1 post?							X				1
45	294	posthole							X				1
47	307	posthole							X				1
48	319	posthole							X				1
48	320	str 1 post?							X				1
-	244	str 1 post?							X				1
-	249	str 1			X								1

Table 8-9, cont. Wood Identifications from Yuchi Town Samples

Feature	Bag	Feature Type	Wood Types										
			Wild Cher	Hick	Oak, Red	Oak, White	Oak, Indet	Persim	Pine, Hard	Diffuse Porous	Unident Hardwood	Cane Stem	# Woods Present
-	263	str 1 basin							20			X	1
-	357	str 1							X				1
62	392	pit							X				1
67	410	posthole							X				1
85	450	posthole					(X)	(X)	X				3
40	350	possible				X	X		X				2
46 Zn A	300	carbon			X				X		X		3
57	372	pit			X				X				2
71	427	cob pit		X					X				2
Overall Taxon Ubiquity			3	3	18	3	-	3	82	3			

Chapter 9
Faunal Remains

Emanuel Breitburg

A sample of 797 specimens of vertebrate and invertebrate animal remains was recovered by the 1994-1995 USACERL excavations at Yuchi Town. This small sample of poorly preserved material provides a narrow archaeological view of the dietary and other roles animals and animal by-products played in the lives of Yuchi Town residents. Within the aforementioned limits, the following discussion presents the methods and objectives of analysis, sample attributes, and identified taxa. The small number of specimens showing tool marks and other types of modification provides a limited view of animal butchering strategies and the utilitarian and nonutilitarian uses for bone and shell.

Objectives and Analysis Methods

The methods employed to analyze the faunal remains involved the assignment of each specimen as identifiable or indeterminate mammal, bird, reptile, amphibian, fish, or shell. When possible each specimen was identified to species, anatomical element and position (i.e., left or right side), and inspected for evidence of butchering and/or other types of modification. The data gathered during this phase of the analysis were entered into a database inventory of faunal remains. The database was employed to generate tables of the frequency of skeletal portions for each taxon or category, for each bag lot, and for each excavated feature. Table 9-1 provides a summary of this information for feature and other contexts.

Data on the frequency of skeletal remains were employed to determine the skeletal composition for each represented taxon, and the minimum number of individuals (MNI) represented for each identified species. Additional information noted during this phase of the analysis included the number of burned, cut and/or modified specimens associated with each category. Subsequently, MNI determinations, meat yield estimates, and dietary ratios (White 1953) for each edible species were calculated. Such data are useful in exploring the synchronic and diachronic patterns of faunal utilization at this site, and for comparisons with other sites and cultural periods.

Additional objectives of the faunal analysis are oriented toward establishing site-specific models of animal utilization, butchering strategies and bone implement manufacture and use. Owing to the small quantity of cut bone, an assessment of the methods of butchering various animals is not possible. Likewise, modified bone and shell were recovered in small numbers and in fragmentary condition, providing little insight into bone implement manufacture and use.

Faunal remains were segregated in the field from the other artifact categories. The present study includes nearly all of the faunal specimens recovered by the 1994-1995 excavations. Specimens not included generally represent very small fragments that were not recognized in the field as faunal remains.

Assemblage Attributes

The majority of bone (ca. 85%, n=675) was recovered from midden and other deposits associated with the hand excavation of 76 m^2. Fifteen percent (n=122) of the faunal remains was associated with 20 features (Table 9-1).

A total of 73 individuals represent seven mammal, one bird, four reptile, and six mollusc species, genera, and orders identified from a sample of 797 specimens of bone, teeth, and shell. The faunal remains are composed of about 59% (n=470) mammal, 1% (n=8) bird, 8% (n=66) reptile, one indeterminate fish fragment, and 32% (n=252) marine and freshwater mollusc.

Identifiable specimens, assignable in most cases to species, account for about 49% (n=388) of the sample. About 15% (n=122) of the remains have been exposed to fire or heat. Four specimens exhibit cut marks or modification attributable to butchering activities, and two specimens display evidence of modification resulting from use.

Accounts of Species

Mammals

White-tailed deer remains (n=193) dominate the mammal bone sample, accounting for 85% of the identified mammal specimens. Deer antler, craniofacial, and dental elements account for 15.5% (n=30) and axial, forelimb and hindlimb specimens represent 5%, 19.7% and 44.6% (respectively) of the remains. Miscellaneous metapodial and phalanx remains account for 15%. About 14% (n=27) of the remains are burned, three specimens display cut marks, and one specimen exhibits modification produced by human use or manufacture. The minimum number of individuals (MNI=6) is based on the recovery of a similar number of right calcanea.

In addition to two human cranial and one mandibular fragments associated with TU 8 L-1, the remaining identified taxa include the following: domestic cattle or bison, black bear, domestic dog, beaver, and opossum. Domestic cattle or bison remains are represented by one dental fragment recovered from TU 2 (Block A), and one first phalanx was associated with TU 7 (Block A). The size and shape of the first phalanx suggests it is more likely cow than bison.

Black bear remains were found scattered throughout the excavated area and consist of dental, metacarpal, metatarsal, tarsal, and phalanx remains. Based on the recovery of two right tibial tarsi, a minimum of two individuals is present. Beaver (n=3) and opossum (n=4) remains represent one individual each.

Of eleven dog bones, ten are associated with Feature 28. These remains were found in an articulated state. Although no pit or other feature was visible, the disposition of the skeletal remains provides adequate evidence to suggest that the animal was intentionally interred. A second right proximal ulna, associated with TU 4 L-4, represents a second individual.

Birds

Bird bones are very uncommon in the assemblage (n=8). The wild turkey is the only identified species and is represented by coracoid, tibiotarsus, and tarsometatarsus specimens.

Reptiles and Fishes

Of the 35 identifiable specimens of turtle bone, map and/or painted turtle species account for 27 carapace and plastron specimens. Other turtles present include mud turtle species (n=1), box turtle (n=1), and softshell turtle species.

Fish are represented by a single indeterminate fish bone associated with Feature 31.

Mollusc

Marine, freshwater, and terrestrial mollusc are represented by 252 specimens of which 121 are identifiable to six taxa. Conch wall and columella fragments account for 48 specimens, and 54 specimens represent a single freshwater mussel, *Medionidus penicillatus*. The terrestrial snail, *Mesomphix* spp. (n=6), appears to be intrusive. While the freshwater bivalves and aquatic snails are native to the Chattahoochee River (Clench and Turner 1956), the Yuchi Town residents either acquired the conch shell by trade or procured it directly from coastal areas frequented by villagers.

Butchering Pattern

Three deer and one bear bone specimens exhibit cut marks. Two deer astragali display cut marks on the anterior and lateral aspects of the element. One astragalus, associated with TU 18 L-4, was cut with a metal ax or knife. One bear calcaneus, recovered from TU 6 L-2, displays cut marks along the superior and inferior sides of the element. The depth and breadth of the cut marks imply the element was disarticulated using a metal knife. The location of the

cut marks on the deer and bear bones implies that the lower part of the hindleg was disarticulated by severing the ligaments and tendons in the area of the "ankle."

Modified Bone

Modified bone and shell remains consist of one specimen each. One indeterminate large mammal long bone shaft, recovered from TU 18 L-3, appears to be an awl. The specimen shows evidence of scoring around the base and is sharpened at the end.

One modified conch columella bead was recovered from TU 13 L-2. It is 14.1 mm in length, and 11.1 to 13.5 mm in diameter. A 2.1 mm drilled hole at each end suggests that the specimen was part of a necklace or bracelet.

Dietary Assessment

An appraisal of the significance of faunal taxa in the diet of the residents at Yuchi Town is hampered by small sample size. Based on the minimum number of individuals for indigenous species, the white-tailed deer was the most important animal taken. Bear was the second most significant species hunted. Other animal resources (beaver, opossum, turkey, mollusc, and fish) were minor or supplemental to the diet. Domestic cattle appear to have been an additional source of meat and hides.

Discussion and Conclusions

Yuchi Town was a large Yuchi settlement situated among Creek groups along the west bank of the Chattahoochee River (Bartram 1928). Residents numbered 1500, with a fighting strength of 500 warriors in 1776. The paucity of faunal remains (relative to the site population) within the excavated area may be due to a practice of discarding spent animal remains in the nearby river. Additional factors such as soil acidity or porosity may be responsible for the low concentrations of preserved bone and shell.

Nevertheless, the recovered faunal remains do show the expected trend of primary dependence on deer hunting. Swanton (1946:344-351) notes that among southeastern groups, deer was the primary source of meat and hides, followed by black bear. By 1762 the Cherokee, and by the 1770s the Creek, possessed domestic horses, cattle, hogs, and chickens.

Yuchi Town faunal remains do suggest the use of domestic cattle, and hence, provide some evidence that the traditional Yuchi protein sources were being augmented by the use of beef. Archaeologically, the latter subsistence change has been documented for the contemporaneous Overhill Cherokee populations of the Little Tennessee River (Bogan and Polhemus 1987).

The absence of fish remains is surprising given the significance of fish documented ethnographically for the Yuchi (Swanton 1946:340). The annual fish harvest among the Yuchi was a communal affair, with entire families meeting from July to August to take advantage of the seasonal flush in fish resources in the nearby Chattahoochee River. Poor preservation and small sample size result in a distorted view of the importance of fish at Yuchi Town.

Although the lack of fishing activities at the site is evident, the presence of semiaquatic mammals (beaver) and turtles (mud, map/painted, and softshell), and aquatic resources (bivalves and gastropod) do suggest that aquatic or riparian habitats were exploited during the winter (beaver), late spring, summer, and early fall months. Other mammal and bird species (deer, black bear, opossum, and turkey) may have been taken at anytime during the year, but most could have been taken from the late summer to early spring. Thus, despite the scant representation of fishing activities, a year-round animal exploitation pattern is indicated for the Yuchi Town site.

Barring the possibility of sampling error or poor preservation, Yuchi Town residents, as the ethnographic and ethnohistoric documents suggest, scheduled their fishing activities at an unknown location away from the main village area.

In conclusion, the present sample provides a limited understanding of the animal exploitation practices of Yuchi Town site residents. The sample implies that terrestrial large game mammals (deer and bear) and turkey were the most important species taken. As expected for historic Native American cultural groups of the interior part of the Southeast, deer were hunted for food and other by-products, and hides were traded for European goods. Although certain aspects of the annual cycle of animal use are known ethnographically, a better understanding of the animals exploited by the Yuchi based on archaeological information can be documented best by the examination of a larger collection of faunal remains.

Table 9-1. Summary of Yuchi Town Faunal Remains.

Taxa	N	MNI	B	C	M	Feature																				Units, Other
						1	3	10	11	12	15	22	23	28	30	31	40	41	42	50	56	57	58	70	78	
Homo sapiens, Human	3																									3
Domestic cattle/bison	2	1																								2
Odocoileus virginianus, White-tailed deer	193	6	27	3					1			2		1	2	1	8		1			1	1	1	1	173
Ursus americanus, Black bear	11	2		1																						11
Canis familiaris, Dog	11	2												10												1
Castor canadensis, Beaver	3	1																								3
Didelphis marsupialis, Opossum	4	1								1																3
Large mammal	242		83		1	1	2	1	2		1	5			4	1	5						1			219
Small mammal	1																									1
Meleagris gallopavo, Wild turkey	4	1																								4
Bird fragments	4																									4
Box turtle sp.	1	1																								1
Kinosternon sp. Mud turtle	1	1																								1

Table 9-1, cont. Summary of Yuchi Town Faunal Remains.

Taxa	N	MNI	B	C	M	Feature 1	Feature 3	Feature 10	Feature 11	Feature 12	Feature 15	Feature 22	Feature 23	Feature 28	Feature 30	Feature 31	Feature 40	Feature 41	Feature 42	Feature 50	Feature 56	Feature 57	Feature 58	Feature 70	Feature 78	Units, Other
Graptemys/Chrysemys, Map/painted turtle spp.	27	5	3			1		2											1							23
Trionyx spp., Softshell turtle spp.	3	2	2																							3
Turtle frags	34		7																							34
Fish	1															1										
Amblema costata	3	2				1											1									1
Medionidus penicillatus	54	27						1									11	2		1						39
Elliptio spp.	8	4													1		2									5
Quincuncina cf. burkei	2	2																1								1
Conch shell	48	4			1	1					1		1		1					1	1					42
Mesomphix spp.	6	6																								6
Aquatic gastropod	4	4				1									1											2
Bivalve fragments	127					2											3	6			3	20				93
Total	797	73	122	4	2	7	2	4	3	1	2	7	1	11	9	3	30	9	2	2	4	21	2	1	1	675

Note: B=Burned, C=Cut, M=Modified

Chapter 10
Bioarchaeology

Lynette Norr

Previous archaeological investigations (Braley 1991, 1994) as well as the results of illicit looting made it clear that the 1994-1995 USACERL excavations at Yuchi Town would probably encounter human remains. In preparation for this eventuality, the USACERL crew included a full-time bioarchaeologist. The responsibilities of the bioarchaeologist were to examine all bones encountered at the site, identify faunal remains as non-human so that they could be routinely processed along with other excavated materials, and to personally conduct the documentation of all human remains. The research design called for human bones discovered in-situ to be exposed, documented, and then reinterred. Human remains were mapped, photographed, and inspected for evidence of age, sex, stature, health status, and burial program only to the extent possible with minimal disturbance of in-situ materials. Skeletal material which had already been displaced by looting was documented and then reinterred in the unit or feature where it had been recovered.

Human remains were identified in three contexts: 1) on the surface, presumably as a result of previous looting; 2) in looter holes or looter hole backdirt; and 3) in situ (i.e., essentially undisturbed since the time of interment). Specimens recovered from each of these contexts are described below.

Human Remains on the Surface

An isolated acetabulum from a right innominate (pelvis) fragment was identified on the ground surface very near Looter Hole (LH) 233 (ca. N1484 W2642). This specimen was a chance discovery in a looter hole that was not located within one of the USACERL test units. The bone was designated IB-1 (isolated bone 1), examined, and then returned to LH 233.

Human Remains from Looted Contexts

Human bone was identified in disturbed contexts in TU 3 (Block B) and TU 8 (Block C). In both cases, the remains were recovered from looter holes and associated backdirt. Human remains were also recovered from TU 8 L-1.

Test Unit 3

Human bone was recovered in Feature 1, a looter hole, and Feature 3, a Native American pit which appears to have been the target of the looting. These features were located at the eastern edge of TU 3, and only the (western) portions of the features were investigated. Another looter hole (LH 161) was located a short distance east of F 3 and may conceivably be related to it. However, Feature 3 was thoroughly backfilled by the looters whereas LH 161 was left open.

Feature 1 produced one small fragment of human long bone shaft identified as either part of the distal femur or proximal tibia. Feature 3 produced 13 fragments of the shaft of a right tibia, six fragments of the shaft of a right femur, and the shaft and distal epiphysis of a right metatarsal (possibly the 2nd to fifth, but most likely the 2nd metatarsal). Three additional fragments of human cranium were recovered from TU 3 L 1.

It can be concluded that the looter(s) who dug Feature 3 disturbed at least the right lower limb of a human burial, and that some skeletal elements were either haphazardly or inadvertently reinterred when Feature 3 was backfilled. Because the eastern portions of Features 1 and 3 were not investigated, it remains unclear how much of the burial was disturbed by looting. But given the size of Feature 3, it is likely that the burial was extensively impacted.

Test Unit 8

Human bone was recovered from the fill of LH 157, LH 158, and TU 8 L-1. Looter hole 157 produced one broken cranial (parietal) bone and at least one other bone fragment believed to be human. Looter Hole 158 produced cranial, facial, humerus, rib, vertebra, and tooth fragments. Additional cranial, facial, and long bone fragments, as well as several teeth were recovered when TU 8 L-1 was excavated. There were no indications that these remains related to more than one individual. Given the distance between Looter Holes 157 and 158, it is possible that multiple individuals are represented. It is also possible, however, that whichever looter hole was excavated first scattered the remains of one individual across the area, and this would explain the presence of the remains in the second hole.

In-situ Primary Burial

Test Unit 17 (Block B)

One undisturbed primary burial was documented by the 1994-1995 excavations. As specified in the research design, this burial was uncovered, mapped and photographed,

briefly examined in situ, and then reinterred. Documentation and reinterment of the burial occurred during the course of a single day.

Test Unit 17 was excavated in hopes of encountering a third wall trench associated with Structure 2. The initial evidence of Burial 1 was the identification of cranial bones at a depth of approximately 65 cm below surface. Further excavation revealed that Burial 1 comprised the remains of an infant interred in a shallow oval to L-shaped burial pit (F 81). The infant was in a loosely flexed position and on its right side, with the cranium positioned somewhat ventrally, exposing the occipital and left parietal and temporal bones. The burial was oriented north-south with the head to the south. Age at death estimates are based on the 8.6 cm length of the left humerus, the 11.1 cm length of the left femur, and the three-quarter crown stage of development of the lower left deciduous second molar. These measurements indicate the age at death was eight to 14 months. No skeletal diseases or trauma were noted.

Grave goods associated with the Burial 1 infant consisted of glass beads of several sizes and colors. Most, if not all, of these beads are believed to have been originally strung together in a necklace. The part of the necklace that was exposed included 22 turquoise 6 to 7 mm diameter beads, two black 9 mm beads, and one cobalt blue 9 mm bead. The larger beads, and some of the small turquoise beads were grouped under the chin, with the cobalt blue bead in the center of the cluster. Five small turquoise glass beads were found distributed throughout the fill above the burial. Four other small turquoise glass beads were distributed along the ventral midsection from the waist to the lower hips. It is not known whether these beads might have been sewn to some garment the infant was wearing or whether their arrangement against the skeleton was the result of a post-depositional disturbance, perhaps by burrowing rodents.

All of the beads described above were reinterred with Burial 1. However, 15 beads were later found in flotation samples recovered from the F 81 (burial pit) fill. These beads are described in detail in Chapter 7 (see Table 7-8). Most of these are spheroidal, semitranslucent, sky blue or turquoise in color, and have a date range of A.D. 1650 to 1830, with a mean date of A.D. 1737 (Wagner, Chapter 7, this volume). The overall date range spans most of the Blackmon (A.D. 1625 to 1715) and Lawson Field (A.D. 1715 to 1835) phases.

Discussion

In summary, it is likely that at least four individuals are represented by the human skeletal remains identified during the 1994-1995 USACERL excavations. These remains represent at least three adults and one infant. At least three individuals (the adults) were disturbed by looting. One of these (represented by IB-1) was found in a looter hole that was not located within the USACERL excavations. Thus, the recovery of human bone

suggests that at least two of the 17 (12%) looter holes documented in 1994-1995 had disturbed human burials. This occurrence of human bone in looter holes is much less than that documented in 1991 by Southeastern Archaeological Services, Inc. (SAS) (Braley 1991). Braley reports that human remains were found in each of the four looter holes that were thoroughly investigated, and additional remains were identified in areas that were less intensively examined. It is unclear whether the SAS archaeologists intentionally chose to investigate looter holes known to include human remains. It may also be that the SAS investigations focused on an area characterized by more numerous burials.

Excavations conducted at the site between 1958 and 1962 provide additional evidence of an uneven distribution of burials. Records of those excavations indicate that 11 burials were identified within an excavated area of approximately 200 m^2. In contrast, the excavation of 76 m^2 in 1994-1995 resulted in the identification of only one intact burial. Thus, the density of burials in the 1958-1962 units is about four times that of the 1994-1995 units. The densities are much more similar, however, if one includes the (minimally) two burials that appear to have been disturbed by looters in USACERL test units 3 and 8. In any case, it is not surprising to find evidence of substantial spatial variation in the density of burials at a site as large and complex as Yuchi Town. It is sadly apparent from both the SAS and USACERL investigations that a number of human burials have already been disturbed by looters, and that a very large number of additional burials are at risk of future impact.

Chapter 11
Summary and Conclusions: The Yuchi Town Site in a Regional Context

Michael L. Hargrave

The preceding chapters have provided detailed, largely descriptive accounts of the 1994-1995 USACERL fieldwork at Yuchi Town and subsequent analyses of the artifacts and organic remains. This final chapter begins with a brief overview of the Yuchi Town investigation and then moves to an assessment of the impacts of looting on cultural deposits at the site. The discussion then shifts to issues of subsistence, settlement, and acculturation, with an emphasis on relating the new data on Yuchi Town to current views of Native American culture during the 17th, 18th, and early 19th centuries in the southeastern U.S.

Project Overview

The 1994-1995 USACERL investigations at the Yuchi Town site involved the hand excavation of 24 test units which exposed a total area of 76 m^2. Investigations were restricted to the northwest end of the site, in the vicinity of the 1958-1962 Smithsonian excavations, where looting has been intense. The field strategy was designed to recover data needed to assess the impacts of looting as well as to address research topics related to Native American subsistence, settlement, and acculturation. These topics are discussed below in some detail. The present overview focuses on the results of fieldwork, lithic and ceramic assemblages, and chronology of site occupations.

Features

The 1994-1995 excavations identified 78 cultural features. A little more than one-half of the features are postholes. Many of the postholes are well defined with unequivocal cultural origins. Three of the postholes included the carbonized remains of the actual posts. Pits represent the second most numerous type of feature. Seventeen pits and four corn-cob pits were investigated. The pits are not large by regional standards, with an average length of 79 cm and an average depth of 16.5 cm. The corn-cob pits tend to be small but represent the greatest concentrations of plant remains at the site. Additional feature types identified include wall trenches, faunal concentrations (at least one representing a dog burial), a prepared hearth, a burial pit, a clay lens, and a dense concentration of daub. Of particular interest are the remains of three structures. Two of these were shallow basin, single post structures whereas the third was a wall trench structure. Additional details about the three structures are provided below in the section on Settlement.

Pottery

Pottery was by far the most abundant artifact category recovered at the site. The unanticipated abundance of pottery required the implementation of a sampling strategy. Sherds from four of the test units (one unit from each block) were sorted into types, varieties, and analytical categories using a previously defined classification scheme (Knight and Mistovich 1986:57; Schnell, personal communications, February, 1995). The four sample units represented an area of 16 m^2 and produced 7,054 sherds larger than .5 in. Based on this sample it is estimated that approximately 33,500 sherds (larger than .5 in) weighing nearly 129 kg were recovered in 1994-1995.

Non-shell tempered sherds are a little more abundant (58% of the total) than are those with shell tempering (42%). The dominant types at the site are Chattahoochee Roughened (39% of the sherds assignable to a formal type), Lamar Incised (33%), and Walnut Roughened (21%). Minor types (each making up 2 or 3% of the total) include McKee Island Cordmarked, Mission Red Film, and Kasita Red Film. Virtually all of the ceramics recovered appear to date to the Blackmon (A.D. 1625 to 1715) and Lawson Field (A.D. 1715 to 1835) phases. The absence of any complicated stamped sherds suggests little to no occupation of the northwest portion of the site during the Abercrombie phase (A.D. 1550 to 1625). The vertical distributions of chronologically sensitive ceramic types and modes provide little indication for intact stratigraphy. Factors which may account for this finding are discussed below.

Lithics

The lithic (chert and non-chert rock) artifacts recovered from nine test units (36 m^2) were analyzed by McGimsey (Chapter 6). This sample includes 3,604 items (larger than .5 in) weighing 36,245 g. The assemblage is dominated by unmodified quartzite, sandstone, and indeterminate pebbles and cobbles which may occur naturally at the site. These materials rarely occur in pieces larger than 6 cm in length, and this may explain why they were rarely used in the manufacture of tools; (only 16 pieces of quartzite exhibit clear evidence of use).

Six chert categories were defined on the basis of color. A honey colored material is the most abundant chert, making up as much as 62% of the sample. No chert specimens larger than 6 cm were recovered, indicating that chert (like the non-chert) was generally available only in small pieces. Most of the chert is fine quality material and this may explain the low incidence of heat treatment. The incidence of cortex on flakes suggests that all stages of chert reduction occurred at the site. Manufacturing technologies included a bifacial reduction strategy. Another strategy which may have been used would involve the extensive retouch of flakes derived from pebble cores.

All 32 of the small triangular projectile points recovered in the sample units are assignable to the Guntersville type. This type occurred during the late prehistoric and

continued into the historic period. One other point resembles the Early Archaic Bolen Plain and Kirk Corner-notched types. Most of the projectile points from the other (nonsample) units also represent the Guntersville type. A few specimens appear to represent much earlier (Paleo, Early Archaic) types. These may well have been found at other sites and brought to Yuchi Town by the historic period residents.

Chronology of Occupations

Temporally informative artifacts recovered in 1994-1995 indicate that most of the occupation of the northwest end of the Yuchi Town site occurred during the 17th through early 19th centuries A.D. The Guntersville projectile points could be associated with late prehistoric as well as historic period occupations. The pottery provides more specific temporal information. Virtually all of the sherds appear to date to the Blackmon and Lawson Field phases (i.e., A.D. 1625 to 1835). Five uncorrected radiocarbon assays provide the most specific information about the chronology of occupations. These assays range from 210 $\pm$ 70 to 370 $\pm$ 70 years B.P. (see Table 4-5). Figure 11-1 plots the uncorrected radiocarbon means (with one standard deviation error bars) against the accepted date ranges for the Blackmon and Lawson Field phases. All but one of the radiocarbon means fall within the Blackmon and Lawson Field intervals. The single exception (ISGS-3078) suggests that Structure 2 (a wall trench structure) may well predate the Blackmon phase.

Impacts of Looting

Yuchi Town is located in a remote portion of Ft. Benning and has suffered relatively little impact from development and military training activities. Unfortunately, the site has sustained considerable damage from looting. Intensive looting appears to have begun in the 1980's. In 1991 Southeastern Archaeological Services, Inc., assessed the impacts of looting at Yuchi Town (Braley 1991). The investigation of five looter holes demonstrated that at least nine human burials had been desecrated. Braley reported that many of the holes had been backfilled by the looters (presumably in an effort to conceal their presence), and that the looters used probes and metal detectors (Braley 1991:26) to locate burials. In 1993 and 1994, archaeologist Dean Wood numbered and mapped approximately 800 suspected looter holes. In order to protect the site from further damage, Ft. Benning undertook a multifaceted program of public education, research, and site monitoring. The investigations reported in the present monograph represent one aspect of this program.

The primary focus of the 1994-1995 USACERL investigations at Yuchi Town was to further document the impact of looting on the cultural deposits at the northwest end of the site. The research design developed by USACERL (Chapter 3) called for controlled excavations in areas that had sustained particularly intense looting as well as in areas that were relatively undamaged. Data from the undisturbed areas were needed to serve as a baseline against which damage in the looted areas could be assessed. Twenty-four test units (exposing a total area of 76 m^2) were excavated in four blocks. Block A was located in an

area of relatively numerous looter holes, whereas Block B was in an area of little looting. Block C was positioned so as to assess the impact of several looter holes on a Native American structure. Block D was located in an area characterized by relatively few looter holes, but several of which were very large.

Seventeen looter holes were identified within the excavated area. This represents a density of one looter hole per 4.47 m^2. This figure is not, however, representative of the density of looter holes across the northwest portion of the site. A more representative estimate can be based on Wood's 1993-1994 map of looter holes. For example, if one considers only that portion of the site west of W2450 and also deletes areas along the site margins where there has been little or no looting, there appears to be about 1 hole per 34 m^2. The higher density of looter holes in the USACERL blocks reflects their intentional inclusion in a number of the excavation units.

The present study confirmed Braley's (1991) observation that many looter holes were backfilled by the looters. Seven (41%) of the 17 looter holes investigated in 1994-1995 were not identified until the humus and/or plow zone strata had been removed. Additionally, several disturbed areas documented in unit wall profiles in Block D represent possible looter holes which, due to their uncertain origin, were not numbered as such. None of the looter holes identified by Wood were determined to be bioturbations. Because of the small area excavated (76 m^2) it is probably not appropriate to project these findings to the site as a whole, but it is clear that the extent of looting at Yuchi Town is significantly worse than it would appear based on the number of readily observable, open looter holes.

Impacts on Discrete Deposits

The looter holes investigated in 1994-1995 vary in size, with maximum lengths ranging from 40 to 250 cm, and depths ranging from 20 to 52 cm. (Smaller looter holes, similar in size to the shovel probes used by professional archaeologists, are also present at the site, but these were not included in the USACERL units). Only two (12%) of the investigated looter holes were restricted to the plow zone. The remainder (88%) extended into intact cultural deposits, including midden and transitional strata, house basins, other features, and burials. At least three (18%) of the looter holes (F 1, LH 157, LH 158) appear to have disturbed burials, and at least four (24%) (LH 157, 158, F 1, F 51) impacted the remains of Native American architecture. Again, it is difficult to project these figures to the site as a whole due to the small size and nonrandom nature of the excavated sample. Nevertheless, these figures indicate that the hundreds of looter holes at Yuchi Town have already had a significant negative impact on the archaeological record.

Impacts on Stratigraphy

One goal of the damage assessment was to determine the impacts of looting on the stratigraphic integrity of the cultural deposits. Ceramics recovered at the site indicate that

virtually all of the occupation dates to the Blackmon (A.D. 1625 to 1715) and Lawson Field (A.D. 1715 to 1835) phases. Under ideal circumstances one would expect to find a predominance of Blackmon phase materials in the lower excavation layers whereas Lawson Field materials would be restricted to the upper levels. Bioturbations and Native American activities would be expected to result in some mixing, but one would still expect to see some evidence of stratified deposits.

Previous studies of the Blackmon and Lawson Field ceramic assemblages (Schnell 1990; Knight 1994; Knight and Mistovich 1986) provided a basis for expectations about the vertical distribution of shell vs. nonshell tempering, burnished surfaces, and the McKee Island Cordmarked, Fortune Noded, and Chattahoochee Roughened types. None of the excavation blocks produced much evidence for the presence of an intact stratigraphic sequence. Several possible explanations for this finding need to be considered. First, sampling factors may limit the reliability of the stratigraphic study. While only four test units (one from each block) were included in the ceramic analysis, sample size is not viewed here as a serious problem. A larger sample would be preferred, but the stratigraphic study did include 16 m^2 of excavated area which produced more than 7000 sherds larger than .5 inch. It is also possible that the sample used in the stratigraphic analysis did not include the most informative test units. For example, Block B is represented by Test Unit 3, which includes the only looter hole in the block. Use of a different unit from Block B might have provided a better chance to identify an intact stratigraphic sequence.

A second possible explanation for the lack of intact stratigraphy is that the analysis may be based on erroneous expectations about the nature of ceramic change. This does not appear to be a likely explanation. The ceramic analysis employed a classification scheme developed by researchers (Knight and Mistovich 1986; Schnell personal communications, February, 1995) who have a great deal of experience with the local ceramic sequence.

It is also possible that the sandy soils present at the site are particularly susceptible to a downward migration of artifacts with a resultant mixing of deposits (Elliott et al. 1994:278). However, it was found that, in three of the four blocks, the weight density (grams per m^3) of nonchert rock, chert, and pottery was greater in the plow zone than in the midden; (Block A was the exception in terms of nonchert rock and pottery, whereas Block C was the exception for chert). This finding suggests that there has not been a general downward migration of artifacts, at least not one that involved movement from the plow zone into the midden. The observation that artifact densities are greater in the plow zone than in the midden also suggests that there has not been a substantial deposition of sediments at the site subsequent to the time of Native American occupation. Such deposition would have "diluted" the density of artifacts in the plow zone relative to the midden.

The effect of modern plowing appears to represent the most plausible explanation for the apparent lack of an intact stratigraphic ceramic sequence at Yuchi Town. Artifact densities indicate that much of the historic Native American occupation occurred on surfaces that are

now included in the plow zone. The intact midden is distinguishable from the plow zone based on modest differences in soil color, texture, compactness, and artifact size. But any vertical patterning in the occurrence of particular ceramic types and modes has been obfuscated by the plow.

Subsistence

Use of Plant Resources

In a recent comparison of archaeobotanical remains from three late 17th century components, Gremillion (1995) outlines a subsistence strategy that appears to have been shared by Native American groups throughout much of the interior southeastern United States. These similarities reflect parallel adaptations to the deciduous woodland environment which characterizes much of the region. Each of these sites includes a component that is approximately coeval with the middle portion of the Blackmon phase (1625-1715) at Yuchi Town. It is important to keep in mind, however, that the Yuchi Town archaeobotanical assemblage is derived from deposits dating to both the Blackmon and subsequent Lawson Field phase (1715-1835).

Data presented by Newsom and Ruggiero (Chapter 8, this volume) indicate that subsistence practices at Yuchi Town conform to the broad regional pattern described by Gremillion (1995). For example, the regional pattern involves a primary reliance on maize supplemented by curcurbita (squash/gourd) and legumes (common beans). Ubiquity indices for maize at the three sites described by Gremillion range from 69 to 92%, whereas maize is present in 84% of the Yuchi Town samples. Gremillion reports ubiquity values for common beans of 5 to 20%, compared to 6% at Yuchi Town. Curcurbita apparently occur in less than 10% of the samples at Fredricks, Graham-White, and Fusihatchee (Gremillion 1995, see Table 2). At Yuchi Town, curcurbita occur in 10% of the samples.

Gremillion demonstrates that most of the native cultigens that were important during the prehistoric period (*Chenopodium berlandieri, Polygonum erectum*, little barley, maygrass, sunflower, *Iva annua*), particularly in the midwestern U.S., appear to have played a very minor role in the historic period regional pattern. Chenopod occurs in from 1 to 15% of the samples at Fredricks, Graham-White, and Fusihatchee, and in 13% of the Yuchi Town samples. The other prehistoric cultigens have ubiquity values of less than 10% at the sites described by Gremillion and do not occur (except as modern seeds) at Yuchi Town (Gremillion 1995).

Mast plays a significant role in the broad regional subsistence pattern. Ubiquity indices for hickory range from 73 to 88% at Fredricks, Graham-White, and Fusihatchee, whereas acorns occur in from 24 to 68%, and walnut occurs in 6 to 62% of the samples. Ubiquity values for two of these resources are a little lower (but roughly comparable) at Yuchi Town: hickory is present in 64% of the samples, and acorn occurs in 13%. No specimens of walnut

wood or fruit were recovered at Yuchi Town. This absence presumably reflects the paucity of walnuts in the dwarf oak forests of the Fall Line Hills (Wharton 1978:180).

The Native American subsistence strategy practiced throughout much of the Southeast in the late 17th century is characterized by relatively little emphasis on European-introduced cultigens. Peaches occur in from 0 to 25% of the samples reported by Gremillion (1995). Preservation biases may favor peaches relative to other non-native cultigens, given that peach pits are relatively durable, particularly when carbonized. No peaches were present in the analyzed Yuchi Town samples. However, David Chase did recover two peach pits from a feature context during his initial investigations at Yuchi Town in 1958 (Braley 1994: appendix B). It may be that peaches were never a particularly important element in the diet. In a description of the Yuchi at the end of the 18th century, Hawkins notes that they had "...but very few peach trees." (Hawkins 1948[1974:62]).

Two other introduced cultigens, watermelon and cowpea (*Vigna unguiculata*), were each present at one of the sites discussed by Gremillion, albeit with ubiquity values less than 10%. Other non-native cultigens which were presumably known to late 17th century Native Americans--wheat and sweet potato--are absent at Fredricks, Graham-White, and Fusihatchee. None of these introduced cultigens are represented in the analyzed samples from Yuchi Town. Gremillion's observation that non-native cultigens were sometimes adopted by Native Americans but played the role of dietary supplement rather than mainstay seems to describe the situation at Yuchi Town (1995:13).

Yuchi Town appears to differ most from the three sites described by Gremillion in terms of the overall number of taxa represented. Excluding wood taxa and modern seeds, Newsom and Ruggiero identify 22 taxa (Table 8-3, this volume). This includes three unidentified categories: unidentified seed type 3, unidentified seed type 4, and unidentified thick seed coat, cr. *Arecaceae* (palm family?). The number of taxa (with similar exclusions) reported for the other three sites is as follows: Graham-White 35 taxa, Fredricks 30 taxa, Fusihatchee 24 taxa. One should not be quick to make too much of the relative paucity of taxa at Yuchi Town, as it may simply be an artifact of sample size and/or composition (kinds of deposits examined). It is also conceivable that the difference in the number of taxa is, at least in part, a reflection of the diversity of the local environment and/or cultural practices. Further assessment of these explanations must await additional study.

In summary, the analysis of archaeobotanical remains from Yuchi Town conducted by Newsom and Ruggiero (Chapter 8) suggests a suite of subsistence practices very similar to the broad regional pattern outlined by Gremillion (1995). Maize played a central role in the diet, supplemented by squash/gourd and common beans, as well as hickory and acorn. With the exception of chenopod, the native annuals that appear to have been cultivated during the prehistoric period played a very minor (if any) role in the diet of historic era Native Americans. Similarly, a group of non-native cultigens including peach, watermelon, wheat, sweet potato, and cowpea were or may have been known to late 17th century Native

Americans, but they were either not adopted or played a supplemental role to the native dietary mainstays.

Use of Animal Resources

Ethnohistorical sources (Hudson 1976; Swanton 1946) provide substantial information about the relative importance of various faunal resources. These sources provide a basis for expectations about the composition of zooarchaeological assemblages. Deer represent the single most important animal resource for 17th and 18th century Native American groups in the interior southeastern U.S. Hudson notes that deer provided 50 to 90% of the dietary protein (1976:275). Deer skins represented one of the key commodities in European-Native American trade (Braund 1993). Bear were far less common but were highly valued for the oil extracted from the fat, as well as a source of meat and furs (Hudson 1976:279). Swanton notes that bison was "...next in importance to deer and bear...[and was] ...in some areas probably of more importance..." (1946:324). He also notes, however, that the economic status of bison during the historic era is very perplexing (1946:324-327). "...the animal is often represented as if well known and commonly hunted, and indeed mention is made of herds consisting of thousands of individuals, yet few herds were actually seen by Europeans in this section..." Swanton concludes that, by historic times, bison herds must have been relatively small and generally restricted to remote areas (1946:327).

Turkey, passenger pigeon, and waterfowl were important resources, and small mammals (particularly raccoon and opossum) were hunted and trapped. In many areas fish played a significant role in the diet and were taken using a variety of methods. Speck describes the use of traps, simple harpoons, gaff hooks, and poisons by the Yuchi. These data were collected in the early years of the 20th century, however, and do not necessarily apply to the 17th-19th century Yuchi (Speck 1909). Swanton relates that the Creek towns of Kashita and Coweta maintained fisheries at the falls of the Chattahoochee at Columbus, several miles upstream from Yuchi Town (1946:341). Poison was generally used in the summer months when water levels were low. Thus, fish appears to have represented an important food resource, available in some quantity throughout the year, and subject to large communal harvests on a seasonal basis.

Horses had become an integral part of Creek life by the early 18th century. They served as a means of transportation and represented a highly valued commodity, and horse theft was rampant all along the frontier by the end of the 18th century (Braund 1993:76-77). The Creeks were not eager to adopt other domestic animals introduced by the Europeans. "Large-scale stock raising simply could not coexist with deer hunting, and Muscogulge complaints concerning cattle spanned the colonial period" (Braund 1993:76). The Creeks feared that cattle running free through their lands would destroy crops, frighten away the deer and other game, and lessen the demand for the venison they offered for trade (Braund 1993:75).

Swanton observes that a large drove of swine accompanied the De Soto expedition

(1946:351). Timberlake reports numerous hogs among the Cherokee in 1761. The descendants of Spanish fowl were being raised by Native Americans along the Georgia coast by 1595, and in the lower Mississippi valley by 1699. But overall, domestic animals other than the horse introduced by the Europeans were very slowly incorporated into the Native American economy (Swanton 1946:351). Animal husbandry did not become well established until a decline in the deer population and worldwide demand for deer skins forced the Creek to shift from commercial hunting to other economic pursuits (Knight 1985:181; Waselkov 1994:195).

The small (n=797) assemblage of rather poorly preserved faunal specimens from Yuchi Town conforms to some of the ethnohistorically derived expectations about patterns of animal use. Breitburg reports (Chapter 9, this volume) that, as expected, deer remains dominate the Yuchi Town assemblage, and deer clearly represents the single most important taxon. Black bear is represented by far fewer specimens but nevertheless ranks as second most important in terms of meat yield. Beaver, opossum, turkey, mollusc, and fish appear to have represented supplemental resources. The dominance of deer and occurrence of these other taxa is fully compatible with faunal assemblages from other Lamar culture sites from throughout the Piedmont region of Georgia and adjacent portions of Alabama, Tennessee, and South Carolina (Hally 1994:151-153). The paucity of fish remains at Yuchi Town is surprising, given the site's location on the banks of the Chattahoochee, and reports (from later periods) of communal fishing. Breitburg suggests that discard patterns (e.g., into the river) and/or soil conditions may account for the general paucity of faunal remains.

Two specimens (a dental fragment and a first phalanx) provide evidence for the presence of cattle at Yuchi Town, but there is no indication of other European introduced domestic animals. Architectural remains from Blocks B and C , and Euro-American artifacts from throughout the investigated area indicate that most of the occupation dates from the mid-17th to mid-18th centuries. Native American occupation of the investigated portion of the Yuchi Town site largely predates the time when cattle, pigs, sheep, goats, and chicken played any significant role in the Creek economy.

Settlement and Seasonality

The 1994-1995 USACERL excavations have done little to resolve the question as to whether the Yuchi Town site conforms to the standardized Creek community plan (i.e., household clusters of multiple structures distributed around a square, chunkey yard, and rotunda) (Bartram 1909:55-56; Swanton 1946:393). None of the excavation units displayed the very low densities of domestic refuse that might be expected to characterize specialized communal facilities such as a square or chunkey yard. The 1994-1995 data also provided no new insights concerning the artifact assemblages associated with individual structures of particular time intervals. It was not possible to relate most of the excavated artifacts and features to any one of the three structures identified at Yuchi Town.

The 1994-1995 excavations do add new data concerning the range of variation in the design of Yuchi domestic architecture. It is useful here to consider the Yuchi Town structures in the context of ethnohistorical accounts of Creek architecture and previous archaeological investigations throughout the region.

Ethnohistorical sources describe seasonally and functionally specialized structures built by the Creeks. Seasonal structures include rectangular "hot houses" (i.e., winter domiciles) used by individual households. Larger communal hot houses were circular in plan, with a conical roof supported by a circular or octagonal arrangement of substantial vertical posts (Hawkins 1848:71; Hitchcock 1930:114-115; Swanton 1946:389-390).

Individual Creek households typically included two, three, or four structures, depending on household size and wealth. These structures were rectangular in plan and arranged so as to enclose or otherwise define a square area. One structure served as a cook-house and winter domicile, a second was a summer domicile, the third was a granary or store house, and the fourth (if present) served as a warehouse for skins or other commodities (Bartram 1909:55-56; Swanton 1946:392-393). Bartram describes household clusters at the Upper Creek town of Kolomi as follows:

> "...their houses are neat commodious buildings, a wooden frame with plastered walls, and roofed with Cypress bark or shingles; every habitation consists of four oblong square houses, of one story, of the same form and dimensions, and so situated as to form an exact square, encompassing an area or court yard of about a quarter of an acre of ground..." (Bartram 1928:312; Swanton 1946:393-394).

Bartram visited Yuchi Town in 1776 and described it thusly:

> "...it is the largest, most compact, and best situated Indian town I ever saw; the habitations are large and neatly built; the walls of the houses are constructed of a wooden frame, then lathed and plaistered [sic] inside and out with a reddish well tempered clay or mortar, which gives them the appearance of red brick walls; and these houses are neatly covered or roofed with Cypress bark or shingles of that tree." (Bartram 1928:312; Swanton 1946:394).

Hally (1994:154) describes several structure types associated with the Lamar culture (which includes the Blackmon and Lawson Field phases):

> "...most excavated examples conform to a single architectural pattern: rectangular floor plan measuring approximately 6-7 m across, depressed floors, individual-post exterior wall construction, wall-trench entrance passage, four interior roof support posts, interior wattle-and-daub partition walls, and central hearth...Exterior walls may have been thatched or daubed."

Somewhat smaller structures (ca. 5 m across) which lack the depressed floors and wall trench entrances are known from several sites. These may simply represent poorly preserved examples of the same type, or a functionally distinct form. Single post structures with circular floor plans measuring up to 9 m in diameter have been identified at five sites. It is not presently known whether these circular structures represent a distinct architectural style, a functionally distinct structure type, or an adaptation to particular environmental conditions (Hally 1994:154).

A third Lamar culture structure type consists of square and rectangular structures with single post wall construction, but with somewhat smaller floor areas and less substantial construction. At the King and Toqua sites, structures of this type have floor plans measuring in the range of 3 m by 6 m.

Previous researchers (Polhemus 1987; Sullivan 1986; Hally 1981) have argued that structures with depressed floors and wall trench entrances were cold weather domiciles. The more lightly constructed rectangular structures are viewed as warm weather shelters. The occurrence of both types at the King site supports this interpretation of seasonal specialization (Hally 1994:154-155).

Portions of at least three distinct structures were identified in the 1994-1995 excavations at Yuchi Town. Structure 1 (in Block C) had a nearly square (6.4 by 6 m) floor plan with an estimated floor area of about 38.4 m^2. The corners of the structure appear to have been slightly rounded. The daub clad walls were supported by single posts spaced 58 to 70 cm apart. Wall posts appear to have been made of pine whereas the roof and/or wall elements were red oak. The floor of this slightly subterranean structure was 32 to 40 cm below the present ground surface. A prepared clay hearth was located just south of the centerpoint of the floor. Given the substantial, semisubterranean construction and presence of a hearth, Structure 1 is interpreted as a winter domicile. Its modest size suggests that Structure 1 was not a communal facility. Two uncorrected radiocarbon assays derived from roof or wall fall and an in situ wall post indicate that Structure 1 dates to the mid-17th century, i.e., the early Blackmon phase; (ISGS-3076 310 $\pm$ 70 years B.P., and ISGS-3080 320 $\pm$ 70 years B.P.).

Structure 3 (in Block B) was manifested by a shallow basin and at least one wall posthole (F 76). The floor of this structure was about 25 to 30 cm below the present ground surface. No information is available about structure size, but the overall floor plan appears to be square or rectangular, with an orientation very similar to that of Structure 1. An uncorrected radiocarbon assay derived from a carbon concentration (F 63) recovered on the floor suggests that Structure 3 (like Structure 1) dates to the mid-17th century (ISGS-3077 290+/-70 years B.P.). Given its apparent similarity in design to Structure 1, it is tempting to suggest that Structure 3 represents another winter domicile. But given the paucity of evidence, this interpretation remains speculative.

A third structure (Structure 2), also located in Block B, was manifested by one definite and one possible wall trench (F 22 and F 31, respectively). The actual floor was not identified, nor was there any evidence of a house basin. The F 22 wall trench is oriented (grid) northeast-southwest, and is thus roughly comparable to the orientations of Structures 1 and 3. Assuming that F 31 is indeed a wall trench associated with Structure 2, and that the endpoint of that wall has been identified, Structure 2 had a rectangular floor plan measuring approximately 4.75 by 5.85 m. These dimensions indicate a floor area of about 27.8 m^2. This wall trench structure does not fit well into any of the Lamar culture house types described by Hally (1994). Based on its size, it is assumed that Structure 2 was not a communal facility, at least not a communal domicile. It may well have served as the primary shelter for a single household. The absence of a house basin may argue against its use as a cold weather domicile, but this is not viewed here as a particularly strong argument. No hearth was identified, but one could easily be present within an unexcavated portion of the structure. Based on the limited available evidence, Structure 2 is viewed here as a probable domicile, but no inferences about season of use can be offered. No carbon suitable for radiocarbon dating was recovered from either wall trench. An uncorrected radiocarbon date based on carbon recovered from a shallow pit (F 23) superimposed onto the F 22 wall trench suggests that Structure 2 dates prior to the late 16th century (ISGS-3078 370 $\pm$ 70 years B.P.).

On balance, one of the three structures identified at Yuchi Town (Structure 1) corresponds quite closely to one of the Lamar culture house types described by Hally (1994). The floor area, depressed floor, and hearth characteristic of these structures suggest that they represent cold season domiciles occupied by individual households. Structure 3 at Yuchi Town may also represent this house type, although this assessment is based on limited evidence. The Yuchi Town wall trench structure is more problematic. It does not easily fit into the Lamar culture house types described by Hally (1994). Lacking information to the contrary, this structure is viewed here as a probable domicile for a single household.

Available evidence is compatible with a year-round occupation of the site, at least during the Blackmon and Lawson Field phases. While the documented architectural remains are suggestive of cold season domiciles, it is likely that structures designed for warm weather occupation are present in unexcavated areas. The faunal assemblage is small and undoubtedly somewhat biased (e.g., the virtual absence of fish), but it nevertheless suggests occupation from (at least) late summer to early spring. The archaeobotanical assemblage is dominated by maize but several other cultivated plants are also present, including common bean, Curcurbita sp. (pumpkins, squashes, and small gourds), and bottle gourds. These taxa, along with hickory nuts, acorns, and certain starchy seeds and fruits, were amenable to storage (Speck 1909). On balance, there is nothing in the materials recovered by the USACERL excavations to suggest that Yuchi Town was not occupied on a year-round basis.

Acculturation

The USACERL excavations at Yuchi Town recovered 189 items of Euro-American

manufacture (Chapter 7, this volume). One aspect of the analysis of these trade goods was to group the artifacts into a number of functional categories (Anderson 1994:105). Items related to Tobacco Use (including kaolin pipe fragments) account for 21.99% of the total. Objects of personal Adornment make up the second largest category (19.37%). The percentages of artifacts assigned to the remaining categories are as follows: Hunting (13.61%), Metal Working (11.51%), Cooking and Eating (10.99%), Other (8.38%), Alcohol Consumption (7.85%), Architecture (2.62%), Clothing (.52%), and Transportation (.52%) (Wagner, Chapter 7: Table 7-14).

It is not surprising to find that Tobacco Use, Adornment, and Hunting represent the three largest categories. The proportion of items related to Alcohol Consumption (fragments of green, dark green, and black glass derived from large wine bottles, and a clear leaded glass bottle stopper) is modest relative to the role played by alcohol in the deer skin trade. Wagner suggests that alcohol may have been consumed using non-glass containers, and/or use of alcohol may generally have occurred at locations other than the settlement. Braund (1993:146-147) relates that Creek headmen, ethical traders, and government officials all wanted the rum trade to be regulated. There were efforts to limit the amount of rum per trader and the total amount that could be brought to particular settlements. But overall, these efforts "had no effect at all on the rum peddlers, who simply moved their business to the hunting camps or along the trading paths away from the disgruntled nattering of a town's prohibitionists" (Braund 1993:146). It is not known whether there were any such efforts to moderate the use of alcohol at Yuchi Town.

Also surprising is the paucity or complete absence of items assignable to the Clothing, Transportation, Architecture, Maintenance, Digging/Cultivation, Grooming, Fishing, and Amusement categories (Anderson 1994:93-116). Clothing items played a particularly prominent role in the deer skin trade. Braund (1993:124-125) notes that Creek women quickly became proficient at tailoring clothing, and there was a large demand for needles, scissors, thimbles, and colorful cloth. While there are obvious biases against the preservation of cloth in the archaeological record, it is surprising to find only a portion of one button at the site. Two fragments of one or two buckles were also recovered, and these may be from a harness, pack, or clothing. Wagner suggests that the paucity of Clothing items may indicate that the residents of Yuchi Town continued to use traditional dress throughout the early 18th century. It is perhaps also possible that, given the small size of the overall Yuchi Town sample, the paucity of items related to clothing may be attributable to sampling factors, or to the reuse and recycling of durable and, in some cases, decorative items such as buttons and buckles.

The absence of such utilitarian items as hoes, axes, and hatchets is also curious. Wagner notes the possibility of a continued preference for the traditional versions of these implements, as well as the effects of recycling. There is considerable evidence at Yuchi Town for the recycling of metal artifacts. For example, worn-out brass kettles (assignable to the Cooking and Eating functional category) were recycled into brass arrow points, tinkling

cones, and pendants. This kind of recycling clearly has an effect on the relative abundance of the functional categories.

Wagner notes that most of the Euro-American items are British in origin, and most date to the first one-half of the 18th century (Chapter 7, this volume). Among the most reliable chronological indicators are the kaolin pipes. Estimated dates of manufacture based on pipe borehole diameters are 1735.6 (using Binford's 1962 formula) and 1738.8 (using the Heighton and Deagan 1972 formula). Similarly, the glass beads suggest a date range of 1737 to 1745. Additional chronological information is provided by the Type G trade gun, the single (military uniform) button, and a fragment of mimosa pattern delft ceramic.

The modest assortment of Euro-American trade goods recovered at Yuchi Town pose several interesting questions. The paucity of trade items in the Yuchi Town sample which predate A.D. 1700 is best explained in terms of the history of the deer skin trade (Knight 1985). Throughout most of the 17th century there was no European presence in the interior southeastern U.S. region. Some trade items entered that region from Florida, where Native American groups had contacts with Spanish missions and military outposts. The trade items commonly in circulation in the late 17th century included knives, scissors, axes, hoes, hatchets, bronze bells, glass beads, blankets, coarse cloth, garments, and other "trifels" (Wenhold 1936:13, cited in Knight 1985:17). This trade was probably inhibited by longstanding antagonism between the Apalachee and Apalachicola, and some of the trade items which reached the interior were the result of raiding. Woodward's initial trading venture into the interior in 1685 soon led to the establishment of the English-Native American deer skin and slave trade. As a consequence, there was a proliferation of English trade goods in the interior after 1690 (Braund 1993:28-29; Knight 1985).

Demographic shifts associated with the development of trade with the English in the Carolinas and with the Yamasee war may also help explain the fact that most of the Yuchi Town trade goods date to the early-to-mid 1700's. Yuchi Town was clearly occupied during the mid-17th century, but may well have been briefly abandoned at some point during the interval 1685 to 1715. Some archaeologists suspect that the pre-Yuchi settlement at Yuchi Town was one of the towns burned by the Spanish in an effort to discourage trade with the English. Some Creek groups moved from the Chattahoochee into the Ocmulgee River valley in order to be closer to the English traders. Some of these groups, including the Yuchi, returned to the Chattahoochee after the Yamasee war. An occupational hiatus of up to 30 years (1685 to 1715) would also contribute to the paucity of trade goods predating the early 18th century. At present, however, there is little evidence for or against such an occupational hiatus at Yuchi Town.

A second issue concerns the paucity of items which clearly postdate A.D. 1750. For reasons which are still poorly understood, silver did not emerge as an important trade item until about 1750 (Knight 1985:182). Around 1790, European tableware (pearlware and whiteware plates, platters, saucers, bowls, and even teacups) rather suddenly came into use

by many Creek households (Knight 1985:180). The Yuchi Town assemblage includes only two items of silver and very little tableware (5 earthenware and 6 stoneware sherds). It is known from historical accounts that Yuchi Town was occupied into the early 19th century (Rogers 1979). As late as 1776, Yuchi Town was described as a large and compact town (Bartram 1955:312). Throughout the Blackmon and Lawson Field phases the settlement may have shifted slightly within the limits of the site as it is presently defined. Thus, it is possible that the USACERL excavations were simply not located within the spatial limits of the late 18th-early 19th century component at Yuchi Town.

Conclusions and Recommendations

The 1994-1995 excavations at Yuchi Town focused on an assessment of the impacts of looting on cultural deposits. Seventeen looter holes were documented within the excavated area (76 m^2). It was found that nearly all of the looter holes extended below the plow zone, impacting midden and transitional strata, architectural remains, other features, and burials. At least three of the documented looter holes disturbed human remains. These looter holes were not completely excavated, but available evidence suggests that the affected burials were completely destroyed. Many of the looter holes were backfilled by the looters, making it difficult to estimate the total number present at the site. It is certain, however, that looting has been substantially more extensive than is suggested by the number of open holes.

The USACERL investigations also provided a substantial body of new data relevant to issues of historic period Native American subsistence practices, domestic architecture, and the nature of acculturation. This work has confirmed what local researchers have long known or suspected--that the Yuchi Town site represents a very rich source of information about Native American culture change during the 17th through early 19th centuries. It is likely that equally rich data relevant to a slightly earlier time interval could be recovered by excavations conducted in other areas of this very large and complex site.

Several characteristics of the cultural deposits at Yuchi Town do not diminish the importance of the site, but do need to be considered in future investigations. The limited excavations reported here did not document a high incidence of superpositioning of features. In one sense, this may be deceiving. Postholes represent the most numerous type of feature present, and it can be assumed that many of the postholes relate to structures. Whereas there were few instances of superimposed postholes, it is likely that many of the posthole patterns which relate to individual houses overlap other patterns. This situation makes it exceedingly difficult to discern the size and shape of individual structures based on relatively small scale excavations.

A second characteristic of the site is the apparent absence of intact stratigraphy, at least within the investigated area. This absence appears to be due to modern plowing rather than looting or natural processes (such as a downward migration of artifacts). The absence of stratigraphy means that efforts at relative dating will need to be based on a seriation of

discrete deposits. In other words, future excavations should target chronologically discrete deposits such as pits and house basins.

Finally, previous investigations at the site indicate that burials are present in at least several areas. Because of the grave goods they typically include, human burials appear to be the primary target of looting. At present, little is known about the spatial distribution of burials at the site.

Several recommendations for the management and future investigation of the Yuchi Town can be offered. First, Ft. Benning should continue with and expand upon its ongoing, multifaceted program of site protection and public education. Perhaps the most challenging task is to identify a viable strategy for preventing additional looting. The Yuchi Town site is large, heavily wooded, and located in a remote area, and these factors conspire to make it very difficult and expensive to monitor the site. The electronic surveillance system presently under development represents one approach. A more traditional approach involving occasional site visits by law enforcement and other Ft. Benning personnel could be made more effective by the improvement of access roads, installation of gates, and additional clearing of understory which could provide concealment for looters. This strategy has already been pursued by Ft. Benning, and no detailed recommendations are necessary here.

The potential success of traditional monitoring efforts could be enhanced if more specific information were available concerning the locations of cemetery areas within the site. Similarly, the productivity of future excavations could be maximized if data were available on the distribution of house basins, pits, and similar features. To this end, it is recommended that future work at the site include the use of geophysical survey techniques such as ground penetrating radar, resistivity, and magnetometry. This effort should begin with a small scale survey designed to identify the most productive techniques and to develop a sampling design for a large-scale program of geophysical survey and carefully focused ground-truthing of anomalies.

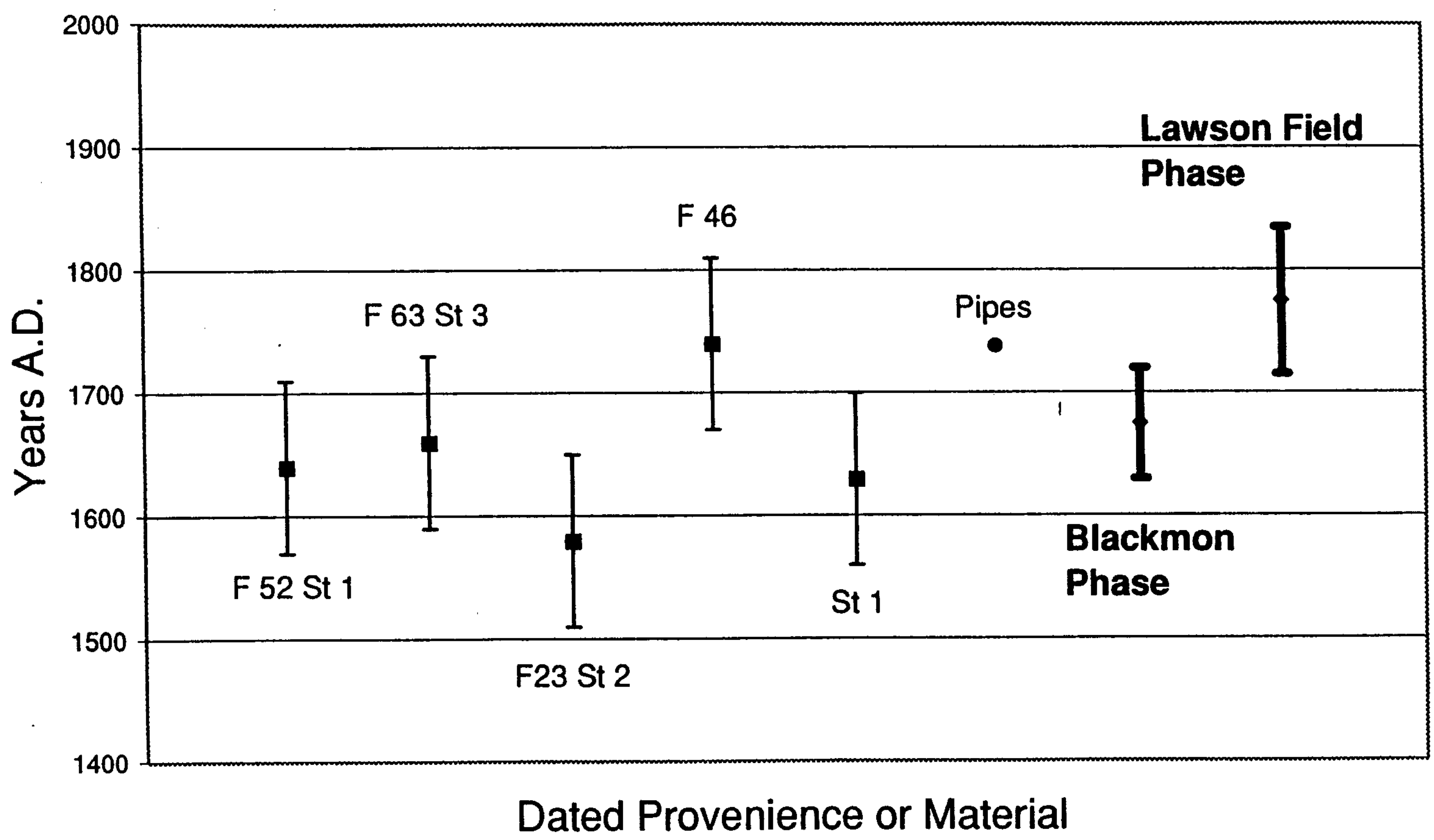

Figure 11-1. Dates Based on Radiocarbon Assays and Pipe Bore Diameters Compared to Date Ranges for the Blackmon and Lawson Field Phases.

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